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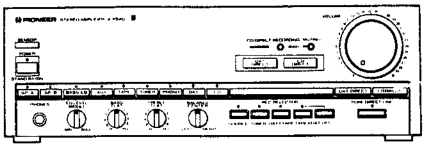
Service Manual



ORDER NO.
ARP1577

STEREO AMPLIFIER

A-X540
A-X440
A-X340

MODELS A-X540, A-X440 AND A-X340 HAVE FOUR VERSIONS:

Type	Applicable model			Power requirement	Export destination
	A-X540	A-X440	A-X340		
HE	○	○	○	AC220V,240V (switchable)	European continent
HB	○	○	○	AC220V,240V (switchable)	United Kingdom
HEZ	○	○	○	AC220V,240V (switchable)	West Germany
SD	○	○	—	AC110V,120V-127V,220V, 240V (switchable)	Kingdom of Saudi Arabia and general market

- **This servise manual is applicable to the HE and HB types.**
- **For the HB type,refer to page 48.**
- **For the other types,refer to additional servise manual.**

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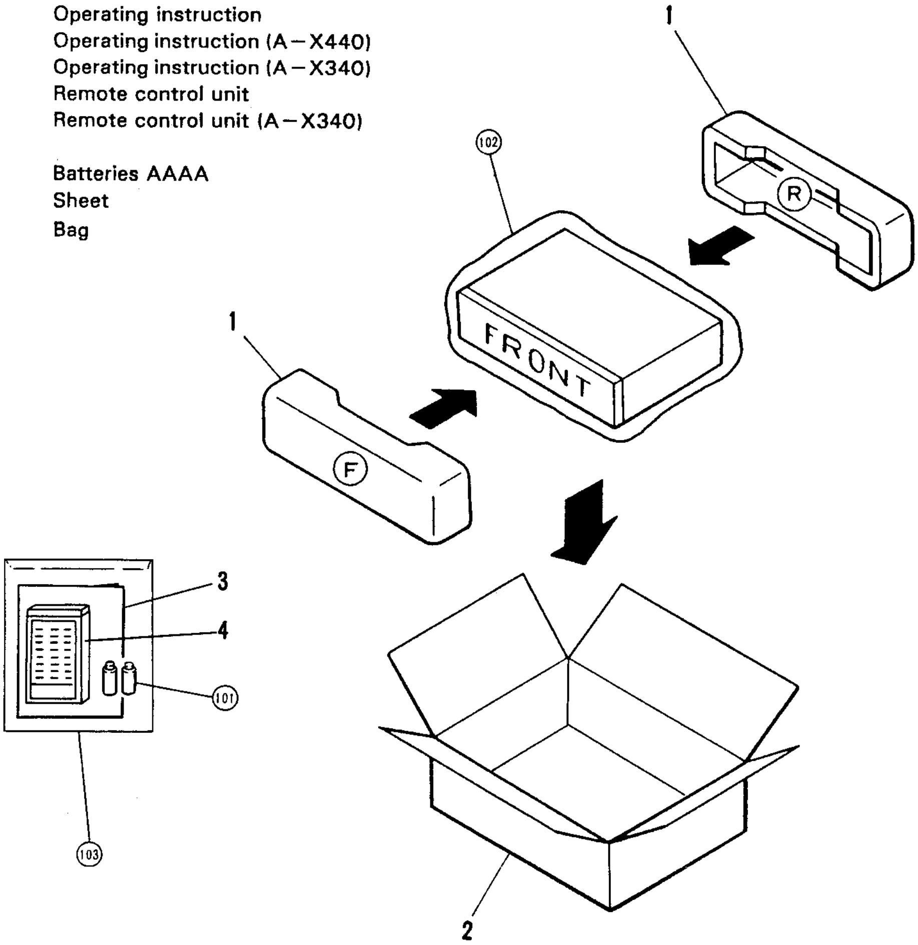
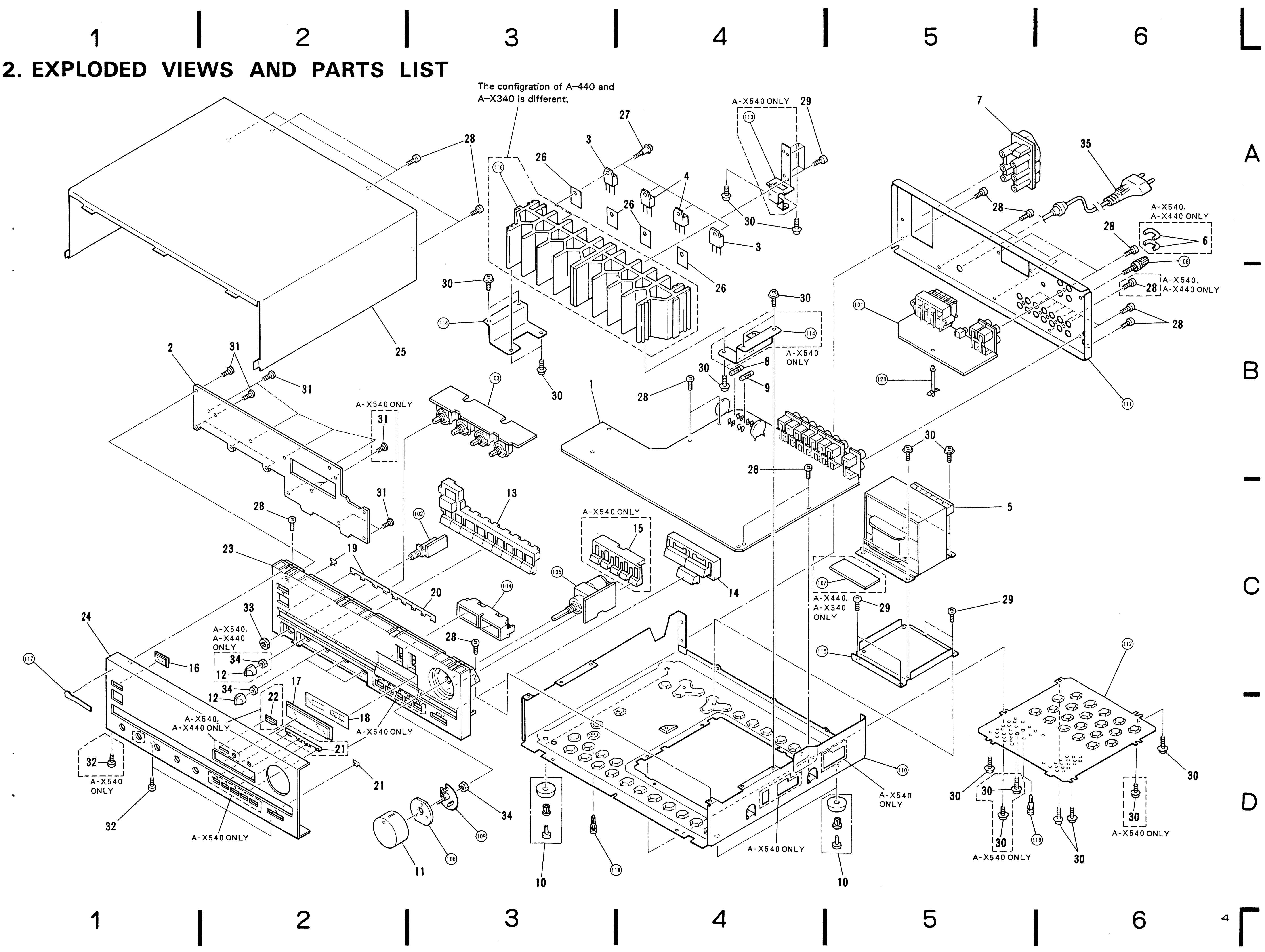
1. PACKING

Mark	No.	Parts No.	Description
	1	AHA1069	Pad
	2	AHD1414	Packing case
		AHD1415	Packing case (A–X440)
		AHD1416	Packing case (A–X340)
	3	ARE1080	Operating instruction
		ARE1081	Operating instruction (A–X440)
		ARE1082	Operating instruction (A–X340)
	4	AXD1053	Remote control unit
		AXD1052	Remote control unit (A–X340)
	101		Batteries AAAA
	102		Sheet
	103		Bag



2. EXPLODED VIEWS AND PARTS LIST


1
2
3
4
5
6
The configration of A-440 and A-X340 is different.
A-X540 ONLY
A-X540, A-X440 ONLY
A-X440, A-X340 ONLY
A-X540, A-X440 ONLY
A-X540 ONLY
25
28
27
3
4
26
29
30
7
35
6
108
113
116
114
101
111
120
2
31
103
1
8
9
13
102
15
14
5
107
23
19
20
104
105
24
33
34
12
16
22
17
18
21
32
117
11
106
109
110
112
115
118
119
10
A
B
C
D

NOTES:
- Parts without part numb
- The ⚠ mark found on s factor of the part. Theref tion.
- For your parts Stock Co and ★.
  ★★ GENERALLY MO
  This classification shall
  number, temperature, hu
- Parts marked by "◉" ar than usual or they may b

Parts List

Mark	No.	Parts No.
	1	AWZ1770
		AWZ1777
		AWZ1781
	2	AWZ1772
		AWZ1779
		AWZ1782
★★	3	2SA1302
		2SA1264N
		2SA1263N
★★	4	2SC3281
		2SC3181N
		2SC3180N
⚠ ★	5	ATS1141
		ATS1142
		ATS1143
	6	AKM1019
		AKM1004
⚠	7	AKP–502
⚠★★	8	AEK–403
⚠★★	9	AEK–403
		AEK–017
		AEK–018
	10	AMR1285
	11	AAB1044
		AAB1081
		AAB1082
	12	AAB1070
	13	AAD1382
		AAD1383

<540,
<440 ONLY
6
108
A-X540,
A-X440 ONLY
28
30
Y

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts List

Mark	No.	Parts No.	Description
	1	AWZ1770	AF main assembly
		AWZ1777	AF main assembly (A−X440)
		AWZ1781	AF main assembly (A−X340)
	2	AWZ1772	Control main assembly
		AWZ1779	Control main assembly (A−X440)
		AWZ1782	Control main assembly (A−X340)
★★	3	2SA1302	Transistor (Q3,Q4)
		2SA1264N	Transistor (Q3,Q4) (A−X440)
		2SA1263N	Transistor (Q3,Q4) (A−X340)
★★	4	2SC3281	Transistor (Q1,Q2)
		2SC3181N	Transistor (Q1,Q2) (A−X440)
		2SC3180N	Transistor (Q1,Q2) (A−X340)
⚠ ★	5	ATS1141	Power transformer (220V/240V,T1)
		ATS1142	Power transformer (220V/240V,T1) (A−X440)
		ATS1143	Power transformer (220V/240V,T1) (A−X340)
	6	AKM1019	Jumper plug
		AKM1004	Jumper plug (A−X440, A−X340)
⚠	7	AKP−502	AC socket (3P,AC OUTLET)
⚠★★	8	AEK−403	Fuse (T2.5A/250V,FU1)
⚠★★	9	AEK−403	Fuse (T2.5A/250V,FU2)
		AEK−017	Fuse (T2A/250V, FU2) (A−X440)
		AEK−018	Fuse (T1.25A/250V, FU2) (A−X340)
	10	AMR1285	Leg assembly
	11	AAB1044	Rotary knob (VOLUME)
		AAB1081	Rotary knob (VOLUME) (A−X440)
		AAB1082	Rotary knob (VOLUME) (A−X340)
	12	AAB1070	Rotary knob (BASS EQ LEVEL, BASS, TREBLE, BALANCE)
	13	AAD1382	Function knob (STAND-BY/ON, SP−A, SP−B, BASS EQ, AUX, TAPE, TUNER, PHONO, DAT, CD)
		AAD1383	Function knob (A−X340)
	14	AAD1384	Direct knob (DAT DIRECT, CD DIRECT, PURE DIRECT LINE)
		AAD1385	Direct knob (A−X340)
	15	AAD1386	REC SELECTOR knob (SOURCE, TUNER, DAT ▶ TAPE, TAPE ▶ DAT, OFF)
	16	AAK1333	Sencer acrylic lens
	17	AAK1473	Lamp panel
		AAK1474	Lamp panel (A−X340)
	18	AAK1475	Display seat
		AAK1476	Display seat (A−X340)
	19	AAK1482	Indicator lens L
		AAK1483	Indicator lens L (A−X340)
	20	AAK1484	Indicator lens R
	21	AAK1485	Indicator lens A
		AAK1486	Indicator lens A (A−X440, A−X340)
	22	AAK1487	DILECT REC lens
	23	AMB1397	Panel base
		AMB1398	Panel base (A−X440)
		AMB1399	Panel base (A−X340)
	24	ANB1226	Front panel
		ANB1227	Front panel (A−X440)
		ANB1228	Front panel (A−X340)
	25	AZN1802	Bonnet cover
		AZN1748	Bonnet cover (A−X440, A−X340)
	26	AEE1014	Mica sheet
		AEC−818	Mica sheet (A−X440, A−X340)
	27	ABA−297	Screw
	28	ABA−298	Screw
	29	ABA1009	Screw
	30	ABA1011	Screw
	31	BBZ26P080FMC	Screw
	32	BBZ30P080FZK	Screw
	33	ABN−065	Nut
	34	NK90FUC	Nut
⚠	35	ADG1021	AC power cord
	101		SP assembly
	102		HEADPHONE assembly
	103		TONE assembly
	104		LAMP assembly
	105		VR assembly
	106		LED assembly
	107		CONNECTOR assembly
	108		Terminal (GND)
	109		VOL PCB holder
	110		Chassis
	111		Rear panel
	112		Bottom plate
	113		Heat sink holder A
	114		Heat sink holder B
	115		Trans holder
	116		Heat sink
	117		Name plate
	118		Spacer
	119		PCB spacer
	120		PCB spacer

Line voltage selection (HE, HB TYPES)

Line voltage can be changed with following steps.

1. Descomment the AC power cord.
2. Remove the top cover.
3. Change the connection wire (To Power transformer) of Terminal No. 3 (White) as follows.

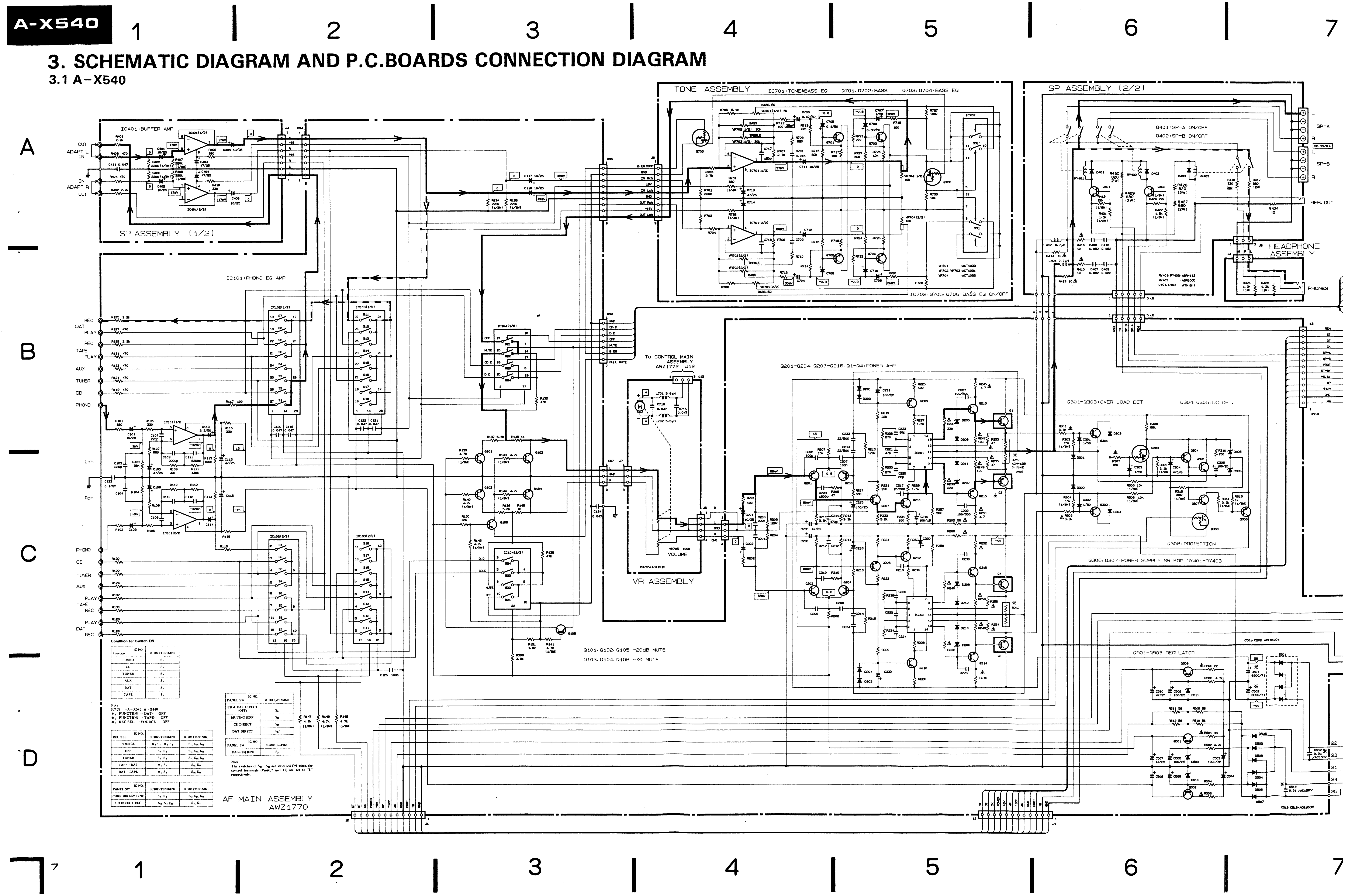
Voltage	Terminal No. 3	Terminal No. 5
220V	White	......
240V	......	White

4. Stick the voltage level on the rear panel.

Part No.	Description
AAX-193	220V level
AAX-192	240V level

3. SCHEMATIC DIAGRAM AND P.C.BOARDS CONNECTION DIAGRAM

3.1 A−X540


1
2
3
4
5
6
7
A
B
C
D
TONE ASSEMBLY
IC701: TONE & BASS EQ
Q701, Q702: BASS
Q703, Q704: BASS EQ
IC702, Q705, Q706: BASS EQ ON/OFF
SP ASSEMBLY (2/2)
Q401: SP-A ON/OFF
Q402: SP-B ON/OFF
SP-A
SP-B
REM. OUT
HEADPHONE ASSEMBLY
PHONES
IC401: BUFFER AMP
ADAPT L
ADAPT R
OUT
IN
SP ASSEMBLY (1/2)
IC101: PHONO EQ AMP
REC
PLAY
DAT
TAPE
AUX
TUNER
CD
PHONO
Lch
Rch
To CONTROL MAIN ASSEMBLY AWZ1772 J12
VR ASSEMBLY
VOLUME
Q201–Q204, Q207–Q216, Q1–Q4: POWER AMP
Q301–Q303: OVER LOAD DET.
Q304, Q305: DC DET.
Q308: PROTECTION
Q306, Q307: POWER SUPPLY SW FOR RY401–RY403
Q501–Q503: REGULATOR
Q101, Q102, Q105: −20dB MUTE
Q103, Q104, Q106: −∞ MUTE
AF MAIN ASSEMBLY
AWZ1770

Condition for Switch ON

Function \ IC NO.	IC102 (TC9164N)
PHONO	S_1
CD	S_2
TUNER	S_3
AUX	S_4
DAT	S_5
TAPE	S_6

Note:
IC103 …… A−X540, A−X440
$*_1$: FUNCTION → DAT …… OFF
$*_2$: FUNCTION → TAPE …… OFF
$*_3$: REC SEL. → SOURCE …… OFF

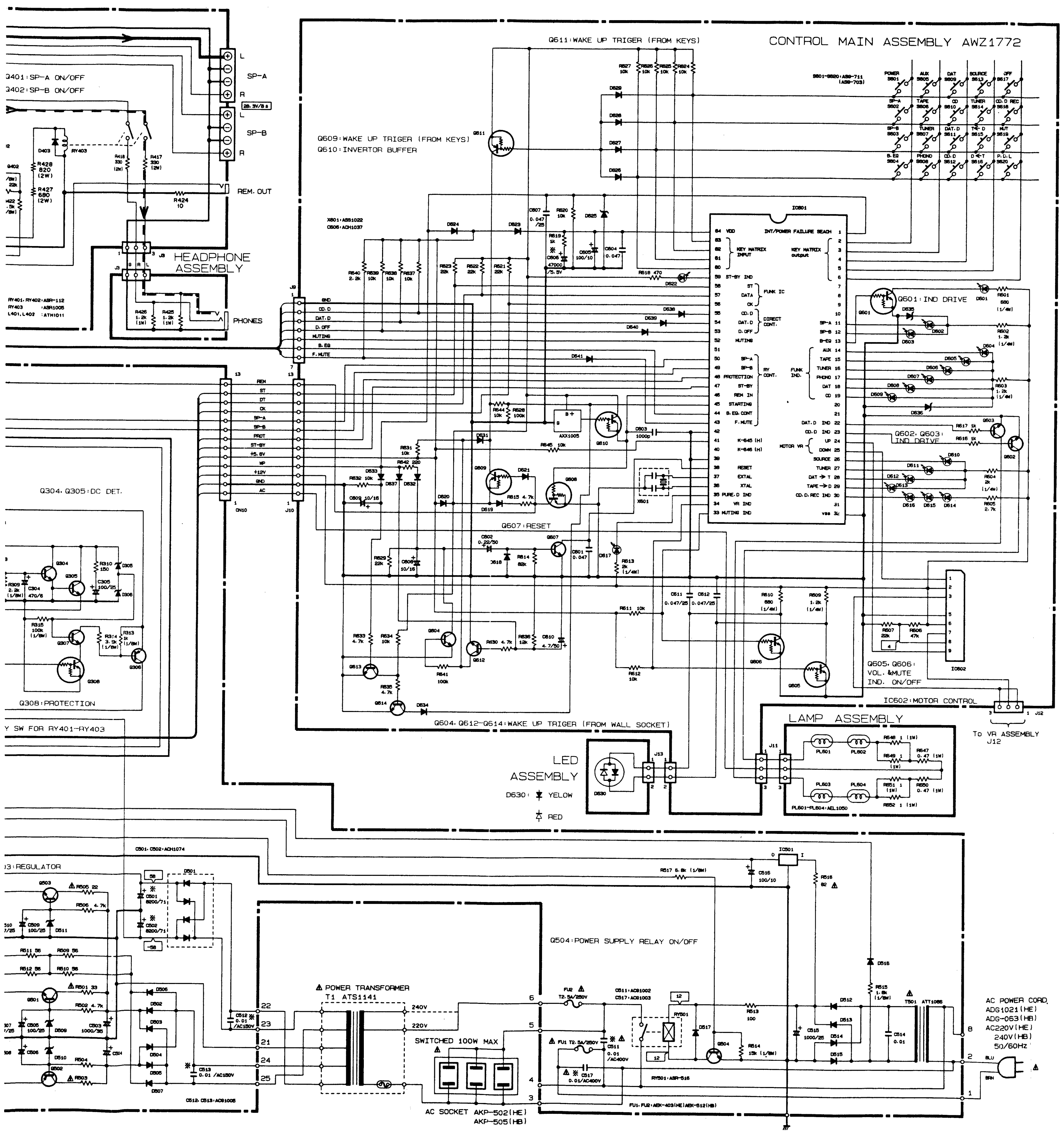
REC SEL. \ IC NO.	IC102 (TC9164N)	IC103 (TC9163N)
SOURCE	$*_1 S_7$, $*_2 S_8$	S_{11}, S_{17}, S_{18}
OFF	S_1, S_8	S_{12}, S_{17}, S_{18}
TUNER	S_7, S_8	S_{14}, S_{17}, S_{18}
TAPE→DAT	$*_3 S_7$	S_{15}, S_{17}
DAT→TAPE	$*_3 S_8$	S_{16}, S_{18}

PANEL SW \ IC NO.	IC102 (TC9164N)	IC103 (TC9163N)
PURE DIRECY LINE	S_7, S_8	S_{12}, S_{17}, S_{18}
CD DIRECT REC	S_{13}, S_{17}, S_{18}	S_7, S_8

PANEL SW \ IC NO.	IC104 (μPD6362)
CD & DAT DIRECT (OFF)	S_{21}
MUTING (OFF)	S_{22}
CD DIRECT	S_{23}
DAT DIRECT	S_{24}

PANEL SW \ IC NO.	IC702 (LC4966)
BASS EQ (ON)	S_{31}

Note:
The switches of S_{21}–S_{24} are switched ON when the control terminals (Pins6,7 and 17) are set to "L" respectively.


CONTROL MAIN ASSEMBLY AWZ1772
Q611: WAKE UP TRIGER (FROM KEYS)
Q609: WAKE UP TRIGER (FROM KEYS)
Q610: INVERTOR BUFFER
Q401: SP-A ON/OFF
Q402: SP-B ON/OFF
SP-A
SP-B
REM. OUT
HEADPHONE ASSEMBLY
PHONES
Q304, Q305: DC DET.
Q308: PROTECTION
Y SW FOR RY401-RY403
Q601: IND DRIVE
Q602, Q603: IND DRIVE
Q607: RESET
Q605, Q606: VOL. & MUTE IND. ON/OFF
IC602: MOTOR CONTROL
Q604, Q612-Q614: WAKE UP TRIGER (FROM WALL SOCKET)
To VR ASSEMBLY J12
LAMP ASSEMBLY
PL601-PL604: AEL1050
LED ASSEMBLY
D630: YELLOW
RED
Q503: REGULATOR
Q504: POWER SUPPLY RELAY ON/OFF
POWER TRANSFORMER
T1 ATS1141
240V
220V
SWITCHED 100W MAX
AC SOCKET AKP-502(HE)
AKP-505(HB)
FU1, FU2: AEK-403(HE) AEK-512(HB)
AC POWER CORD
ADG1021(HE)
ADG-063(HB)
AC220V(HE)
240V(HB)
50/60Hz

AF main assembly (AWZ1770)

Q3,Q4 Transistor	2SA1302
Q1,Q2 Transistor	2SC3281
IC101	M5218P
IC501	M5278L56
IC201,IC202	PA0016
IC103	TC9163N
IC102	TC9164N
IC104	μPD6362C
Q308	RN1201 (DTC143ES)
Q303	RN2203 (DTA124ES)
Q105,Q106	2SA1048
Q209,Q210	2SA1145
Q215,Q216	2SA968
Q201 – Q204	2SA992
Q306,Q502	2SB560
Q207,Q208,Q301,Q302	2SC1845
Q213,Q214	2SC2238
Q307,Q504	2SC2240
Q304,Q305	2SC2458
Q211,Q212	2SC2705
Q101 – Q104	2SC2878
Q501	2SD438
Q503	2SD880
D501	D5SB20F
D207,D208	HZS5BLL
D205,D206	HZS5CLL
D305	RD13ESB
D511	RD13ESB1
D509,D510	RD16ESB3
D306	RD5.6ESB
D502 – D507,D512 – D515	S5566 (11E2)
D201 – D204,D209 – D212, D301 – D304,D516,D517	1SS252

Control main assembly (AWZ1772)

IC601	PDG022
IC602	TA7291S
Q601,Q605,Q606,Q608	RN1201 (DTC143ES)
Q609 – Q611	RN2201 (DTA143ES)
Q602,Q603	2SC2235
Q607,Q612 – Q614,Q604	2SC2458
D614 – D616	AEL1053
D602 – D613,D617,D622	AEL1072
D601	AEL1073
D635,D636	RD3.0ESB
D625	RD4.7ESB2
D618 – D621,D623,D624, D626 – D629,D631 – D634, D637 – D641	1SS252

1. RESISTORS:
Indicated in Ω, ¼W, ⅛W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M); ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
[V] : Signal voltage at 100 W+100 W, 8Ω output (1kHz)
[ ] : DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power.
⇦ mA : DC current at no input signal

4. OTHERS:
➡ : Signal route.
⊘ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCH

S601	POWER	S611	DAT.D
S602	SP-A	S612	CD.D
S603	SP-B	S613	SOURCE
S604	B.EQ	S614	TUNER
S605	AUX	S615	D→T
S606	TAPE	S616	T→D
S607	TUNER	S617	OFF
S608	PHONO	S618	CD.D REC
S609	DAT	S619	MUT
S610	CD	S620	P.D.L

SP assembly

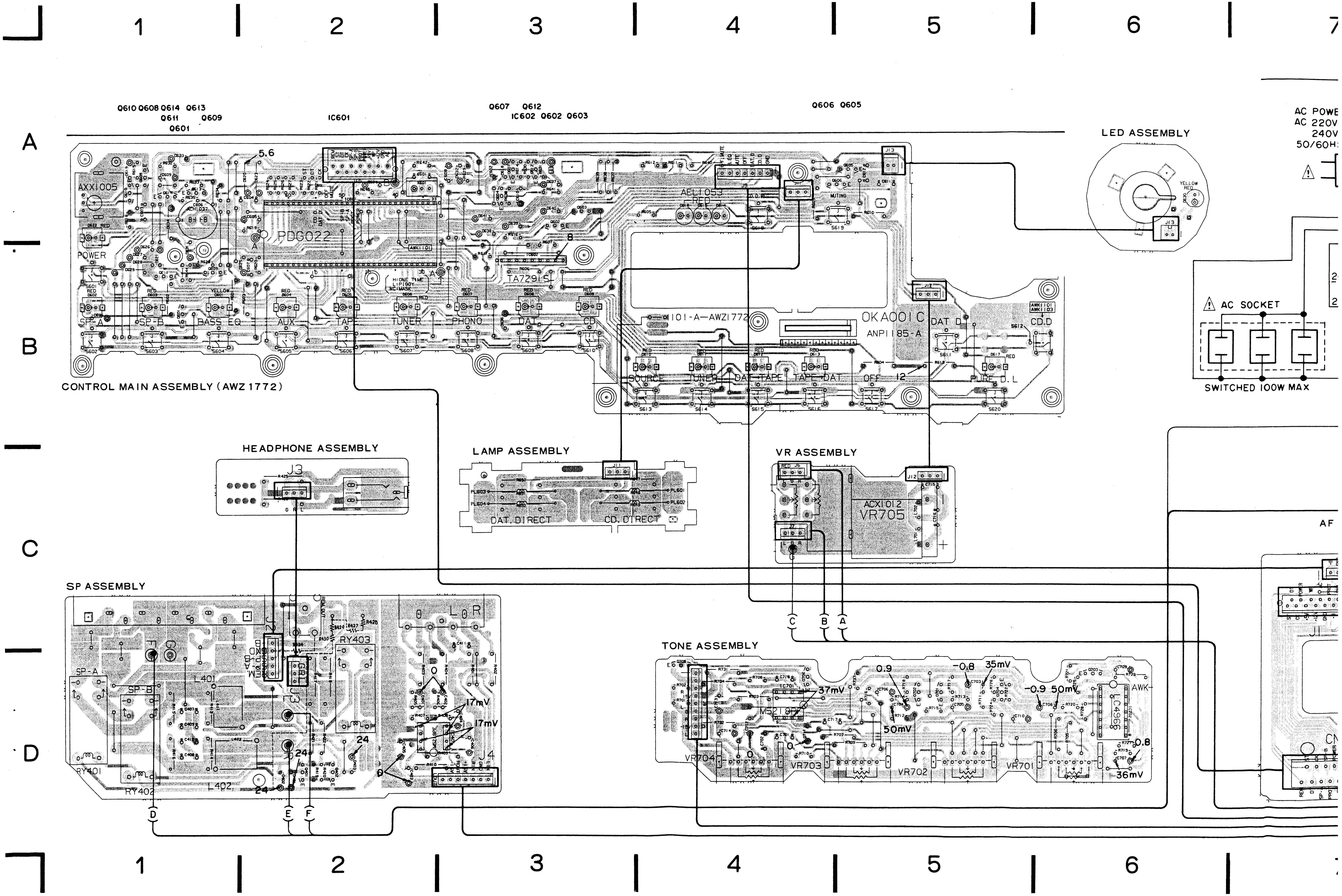
IC401	M5218PF
Q401,Q402	2SC2235
D401 – D403	1SS252

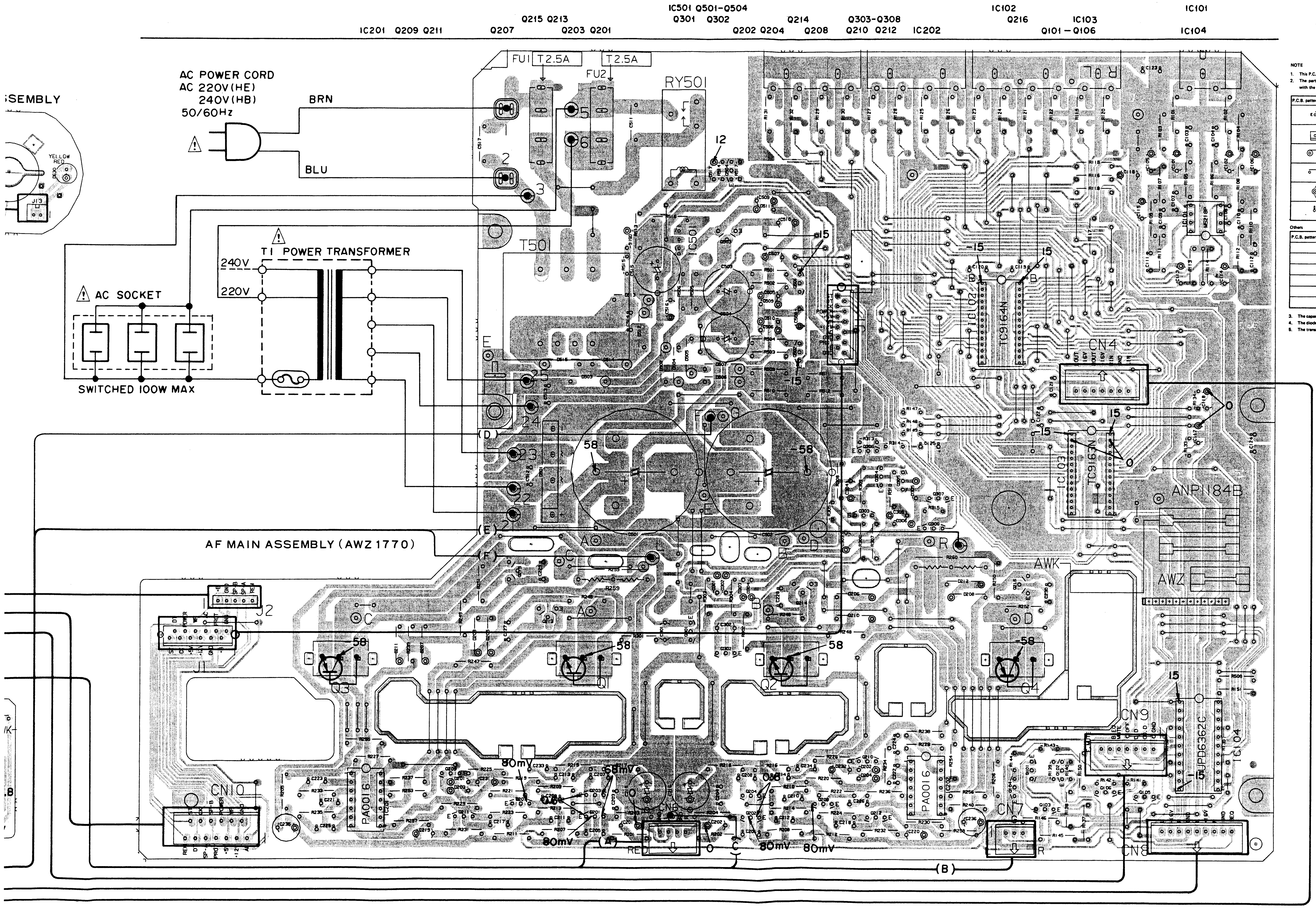
TONE assembly

IC702	LC4966
IC701	M5218PF
Q705	RN1201 (DTC143ES)
Q706	RN2201 (DTA143ES)
Q701 – Q704	2SC1740SLN

LED assembly

D630 LED	AEL1071


1
2
3
4
5
6
A
B
C
D
Q610 Q608 Q614 Q613
Q611 Q609
Q601
IC601
Q607 Q612
IC602 Q602 Q603
Q606 Q605
LED ASSEMBLY
AC POWE
AC 220V
240V
50/60H
AXX1005
PDG022
AWK1101
TA7291S
AEL1053
MUTING
POWER
SP-A
SP-B
BASS EQ
AUX
TAPE
TUNER
PHONO
DAT
CD
5.6
H: ONE TIME
L: PIGGY
NC: MASK
OKA001C
ANP1185-A
1101-A-AWZ1772
DAT D
CD.D
AWK1101
AWK1103
SOURCE
TUNER
DAT-TAPE
TAPE-DAT
OFF
PURE D.L
CONTROL MAIN ASSEMBLY (AWZ 1772)
AC SOCKET
SWITCHED 100W MAX
HEADPHONE ASSEMBLY
J3
LAMP ASSEMBLY
J11
DAT.DIRECT
CD.DIRECT
VR ASSEMBLY
J6
J7
J12
ACX1012
VR705
AF
SP ASSEMBLY
SP-A
SP-B
RY401
RY402
RY403
L401
L402
J2
J3
J4
L
R
24
17mV
0
TONE ASSEMBLY
M5218P
37mV
0.9
-0.8
35mV
50mV
-0.9
50m
0.8
36mV
C4966
AWK
VR704
VR703
VR702
VR701
A
B
C
D
E
F
J13
J12
J1


IC201 Q209 Q211
Q207
Q215 Q213
Q203 Q201
IC501 Q501-Q504
Q301 Q302
Q202 Q204
Q214
Q208
Q303-Q308
Q210 Q212
IC202
IC102
Q216
IC103
Q101-Q106
IC101
IC104
SEMBLY
YELLOW
RED
J13
AC POWER CORD
AC 220V(HE)
240V(HB)
50/60Hz
BRN
BLU
FU1 T2.5A
FU2 T2.5A
RY501
T501
IC501
T1 POWER TRANSFORMER
240V
220V
AC SOCKET
SWITCHED 100W MAX
AF MAIN ASSEMBLY (AWZ 1770)
IC102
TC9164N
CN4
IC103
TC9163N
ANP1184B
AWK
AWZ
J2
J1
Q3
Q1
Q2
Q4
58
-58
-15
15
0
12
80mV
CN10
PA0016
CN6
CN7
CN8
CN9
µPD6362C
IC104
RED
R
(A)
(B)
(C)
(D)
(E)
(F)
A
B
C
D

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

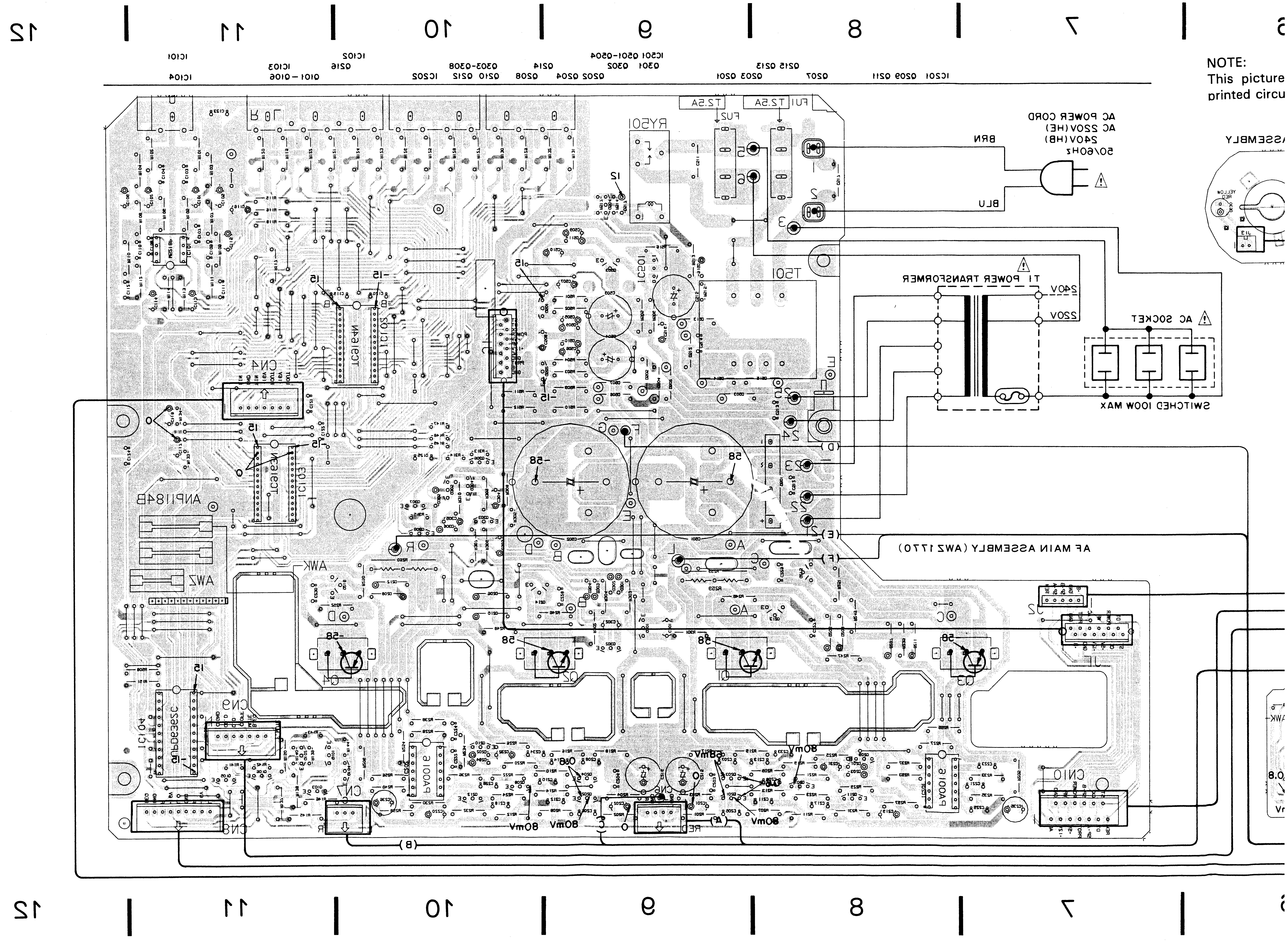
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
E Q504	or	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

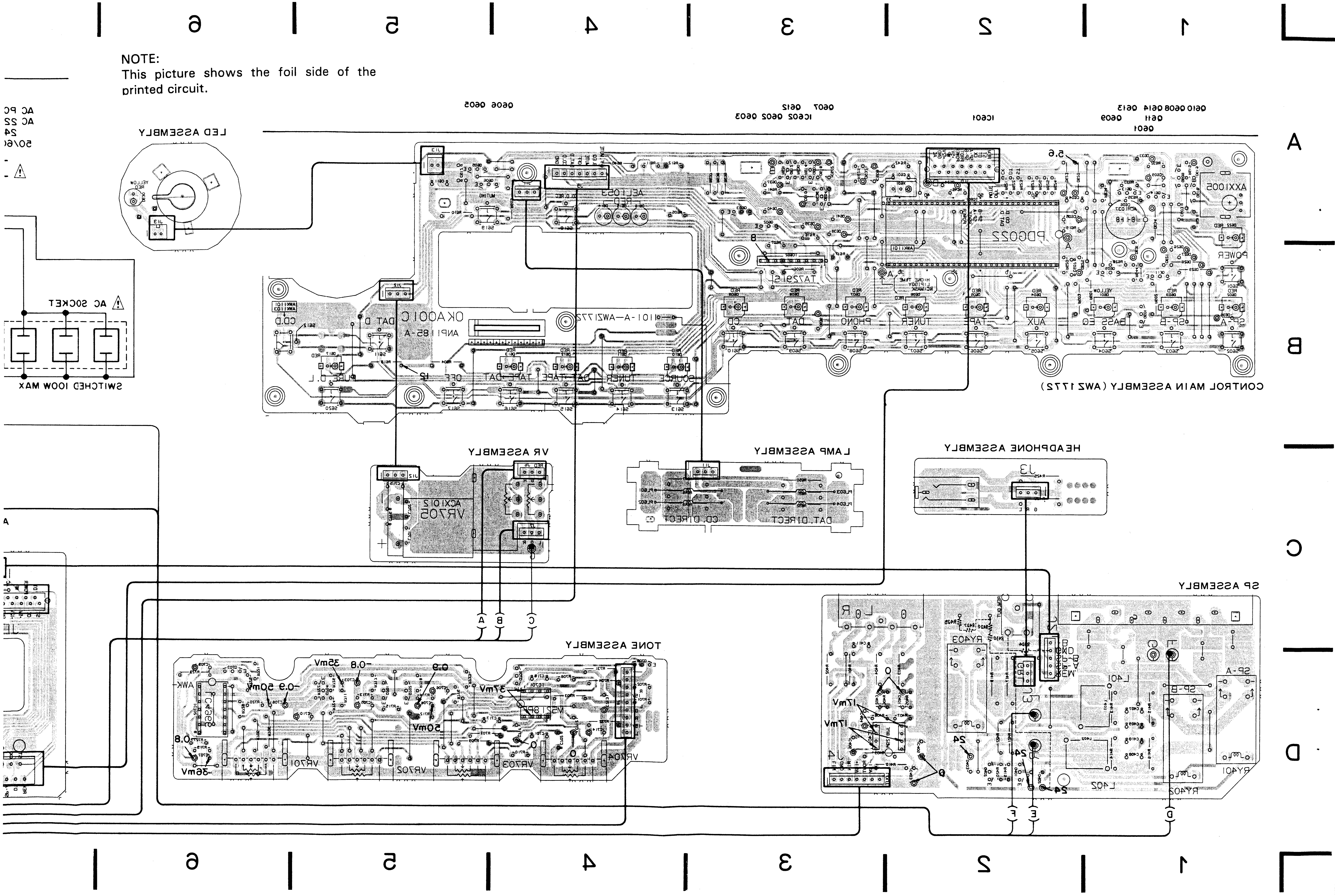
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎(double circles) shows negatine termianl.
4. The diode terminal marked with ◎(double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

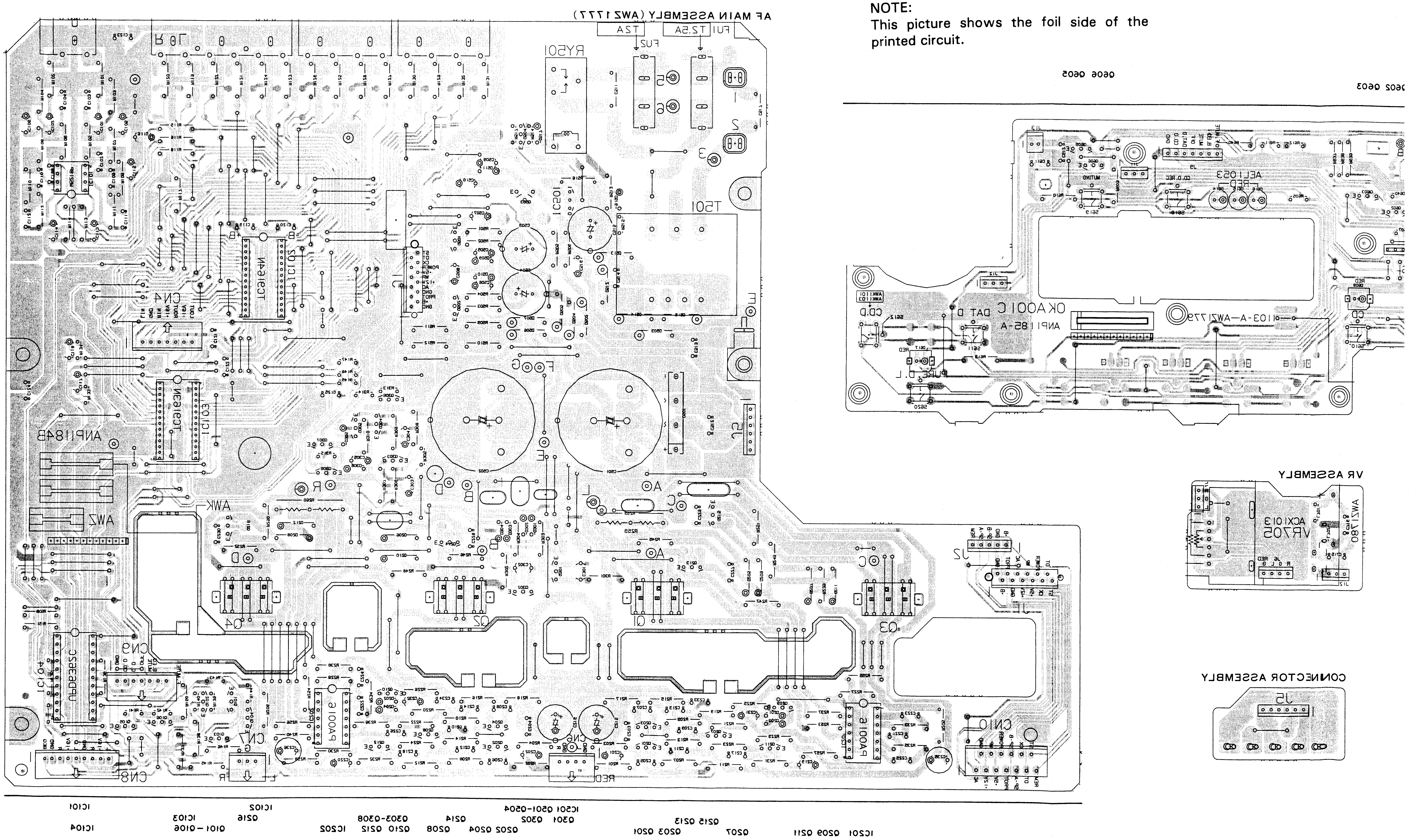
NOTE:
This picture
printed circu


12
11
10
9
8
7
A
B
C
D
IC101
IC104
IC102
IC103
Q216
Q101 – Q106
Q303 – Q308
Q210 Q212
IC202
Q214
Q208
IC501 Q501 – Q504
Q301 Q302
Q202 Q204
Q215 Q213
Q201 Q203
Q207
IC201 Q209 Q211
RY501
FU2 T2.5A
FU1 T2.5A
AC POWER CORD
AC 220V(HE)
240V(HB)
50/60Hz
BRN
BLU
T501
T1 POWER TRANSFORMER
240V
220V
AC SOCKET
SWITCHED 100W MAX
AF MAIN ASSEMBLY (AWZ1170)
CN4
IC105
IC103
ANP1184B
AWK
AWZ
CN9
CN8
CN7
CN6
CN10
CN2
CN1
Q1
Q2
Q3
Q4
PA0016
58
-58
15
-15
12
0
80mV
(A)
(B)
(D)
(E)
(F)
ASSEMBLY
YELLOW
RED

NOTE:
This picture shows the foil side of the printed circuit.

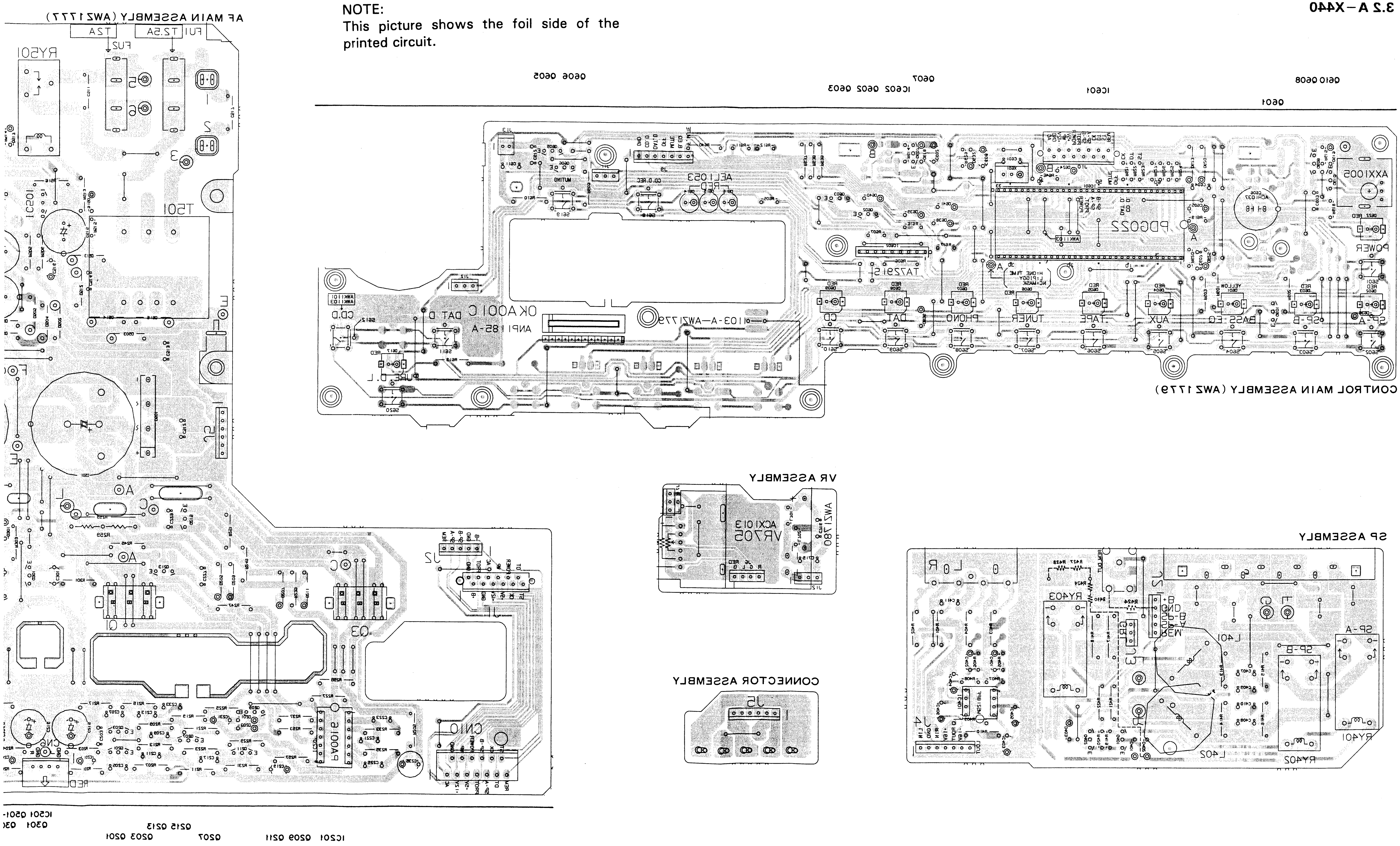

6
5
4
3
2
1
A
B
C
D
AC PO
AC 22
24
50/6
LED ASSEMBLY
YELLOW
RED
J13
AC SOCKET
SWITCHED 100W MAX
Q606 Q605
Q607 Q612
IC602 Q602 Q603
IC601
Q610 Q608 Q614 Q613
Q611 Q609
Q601
CONTROL MAIN ASSEMBLY (AWZ1772)
AEL1053
RED
MUTING
PD0022
AXX1005
POWER
5.6
TA7291S
AWX1101
AWX1103
J12
J11
CD.D
DAT D
OKA001C
ANP1185-A
1101-A-AWZ1772
CD
DAT
PHONO
TUNER
TAPE
AUX
BASS EQ
SP-B
SP-A
PURE C.L
OFF
TAPE·DAT
DAT·TAPE
TUNER
SOURCE
VR ASSEMBLY
ACX1012
VR705
LAMP ASSEMBLY
CD.DIRECT
DAT.DIRECT
HEADPHONE ASSEMBLY
J3
SP ASSEMBLY
RY401
RY402
RY403
L401
L402
17mV
24
TONE ASSEMBLY
AWK
C4569
M5218P
VR701
VR702
VR703
VR704
35mV
-0.8
0.9
-0.9
50mV
37mV
8.0
36mV
A
B
C
D
E
F

NOTE:
This picture shows the foil side of the printed circuit.


AF MAIN ASSEMBLY (AWZ1777)
RY501
T501
FU1 T2.5A
FU2 T2A
IC101
IC102
IC103
IC104
IC201
IC202
IC501
CN4
CN6
CN7
CN8
CN9
CN10
Q1
Q2
Q3
Q4
ANP1184B
AWZ
AWK
PA001
J5
J12
J2
CD.D
DAT D
OKA001C
ANP1185-A
AWZ1779
PURE D.L
MUTING
VR ASSEMBLY
ACX1013
VR705
AWZ1780
CONNECTOR ASSEMBLY
0606 0605
0602 0603
IC101
IC104
0101-0106
IC103
0216
IC102
IC202
0303-0308
0210 0212
0214
0208
0202 0204
IC501 0501-0504
0301 0302
0203 0201
0215 0213
0207
IC201 0209 0211
9
8
7
6
5
4
3
A
B
C
D

3.2 A-X440

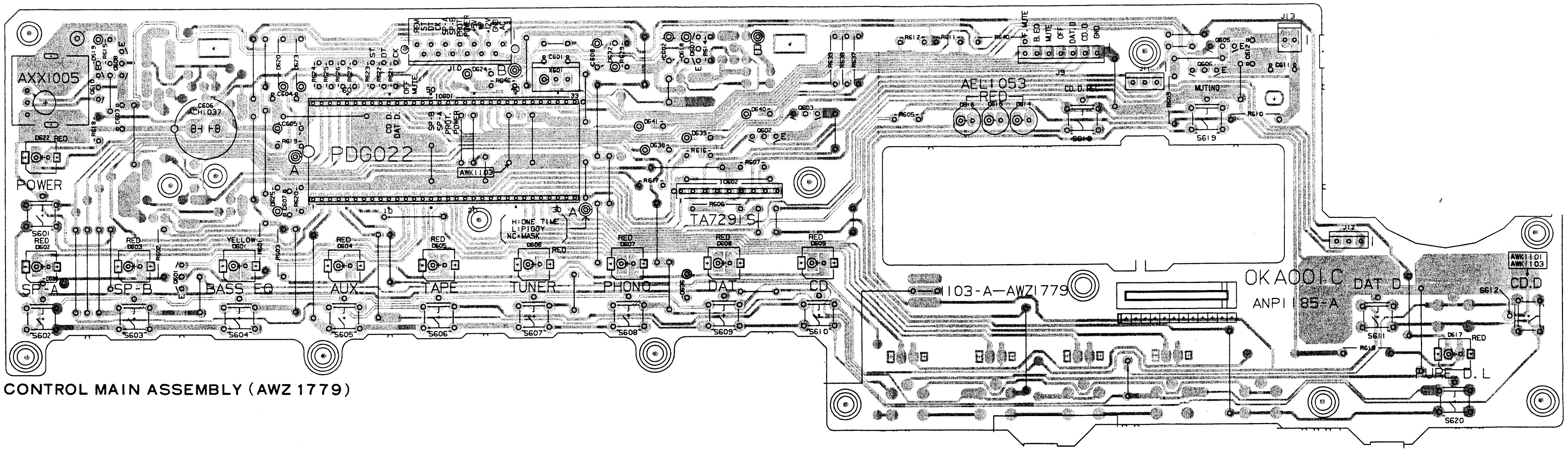
NOTE:
This picture shows the foil side of the printed circuit.


AF MAIN ASSEMBLY (AWZ1777)
CONTROL MAIN ASSEMBLY (AWZ1779)
VR ASSEMBLY
SP ASSEMBLY
CONNECTOR ASSEMBLY
FU1 T2.5A
FU2 T2A
RY501
T501
IC501
PDG022
AXX1005
OKA001C
ANP1185-A
VR705
ACX1013
AWZ1780
RY401
RY402
RY403
L401
L402
PA0016
CN10
CN6
J1
J2
J5
POWER
CD
DAT
PHONO
TUNER
TAPE
AUX
BASS EQ
SP-B
SP-A
MUTING
PURE D.L
Q610 Q608
Q601
IC601
Q607
IC602 Q602 Q603
Q606 Q605
IC501 Q501
Q301 Q30
Q215 Q213
Q203 Q201
Q207
IC201 Q209 Q211
A
B
C
D
1
2
3
4
5
6

3.2 A–X440

Q610 Q608 Q601 IC601 Q607 IC602 Q602 Q603 Q606 Q605

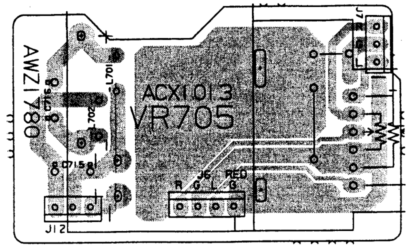
A


AXX1005
POWER
PDG022
AWK1103
TA7291S
ACL1053
RED
OKA001C
ANP1185-A
1103-A-AWZ1779
SP-A
SP-B
BASS EQ
AUX
TAPE
TUNER
PHONO
DAT
CD
DAT D
CD.D
PURE D.L
MUTING
H:ONE TIME
L:PIGGY
NC:MASK
AWK1101
AWK1103
S601
S602
S603
S604
S605
S606
S607
S608
S609
S610
S611
S612
S619
S620
J9
J10
J11
J12
J13

CONTROL MAIN ASSEMBLY (AWZ 1779)

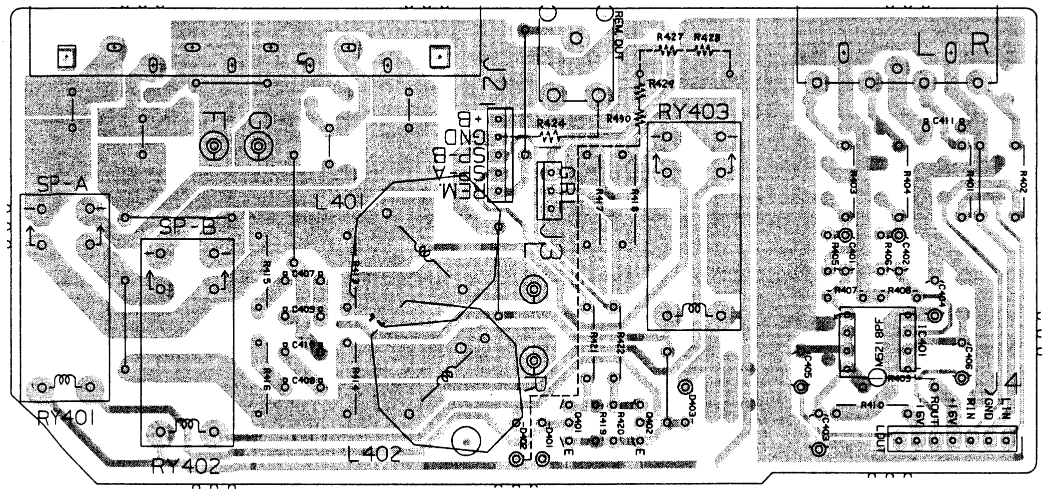
B

VR ASSEMBLY

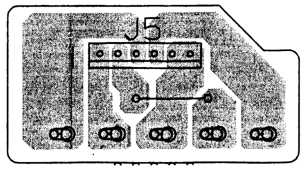

AWZ1780
ACX1013
VR705
J12

C

SP ASSEMBLY

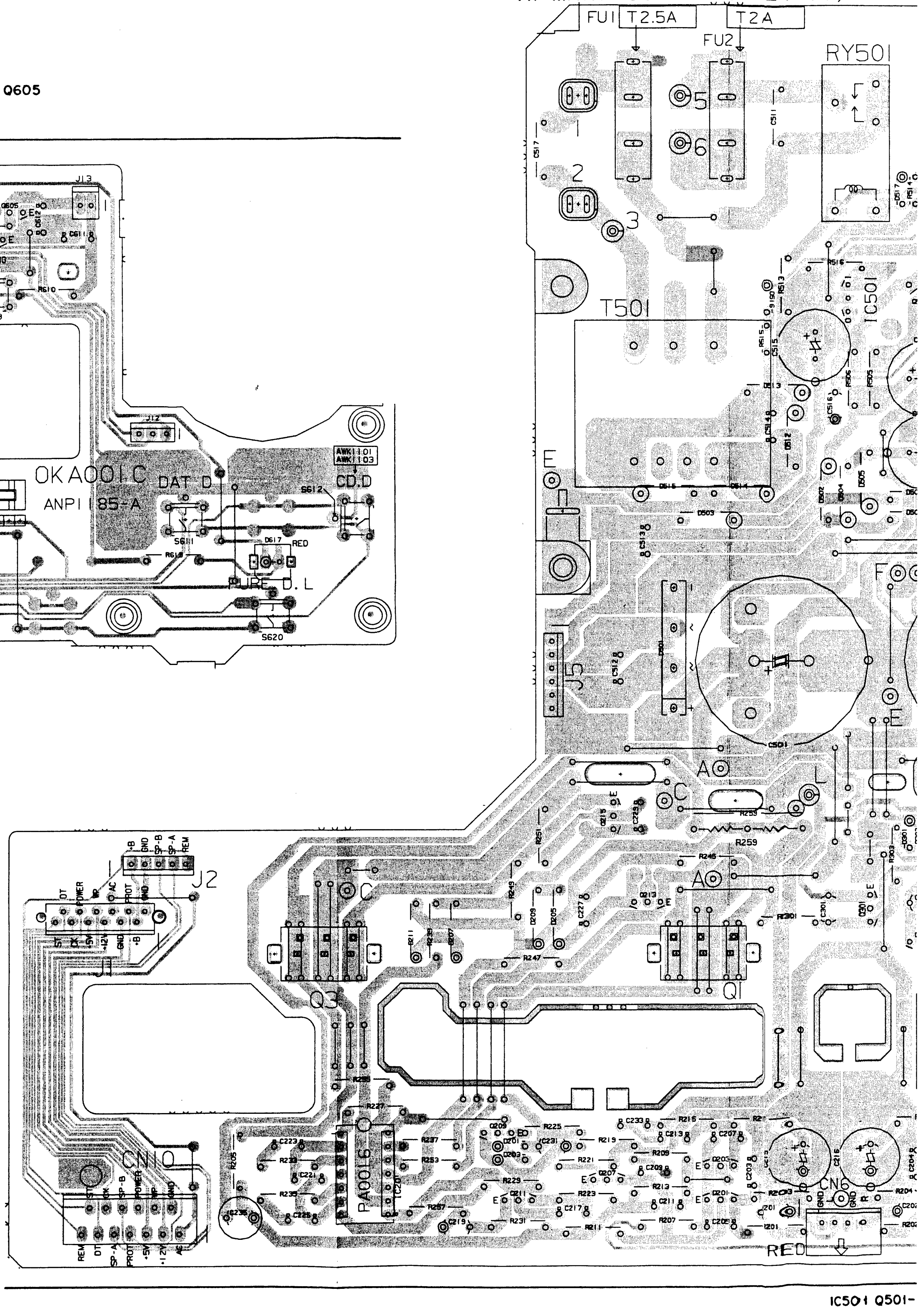

SP-A
SP-B
L401
L402
RY401
RY402
RY403
J2
J3
J4
F
G
L
R
R427
R428
R424

CONNECTOR ASSEMBLY



D

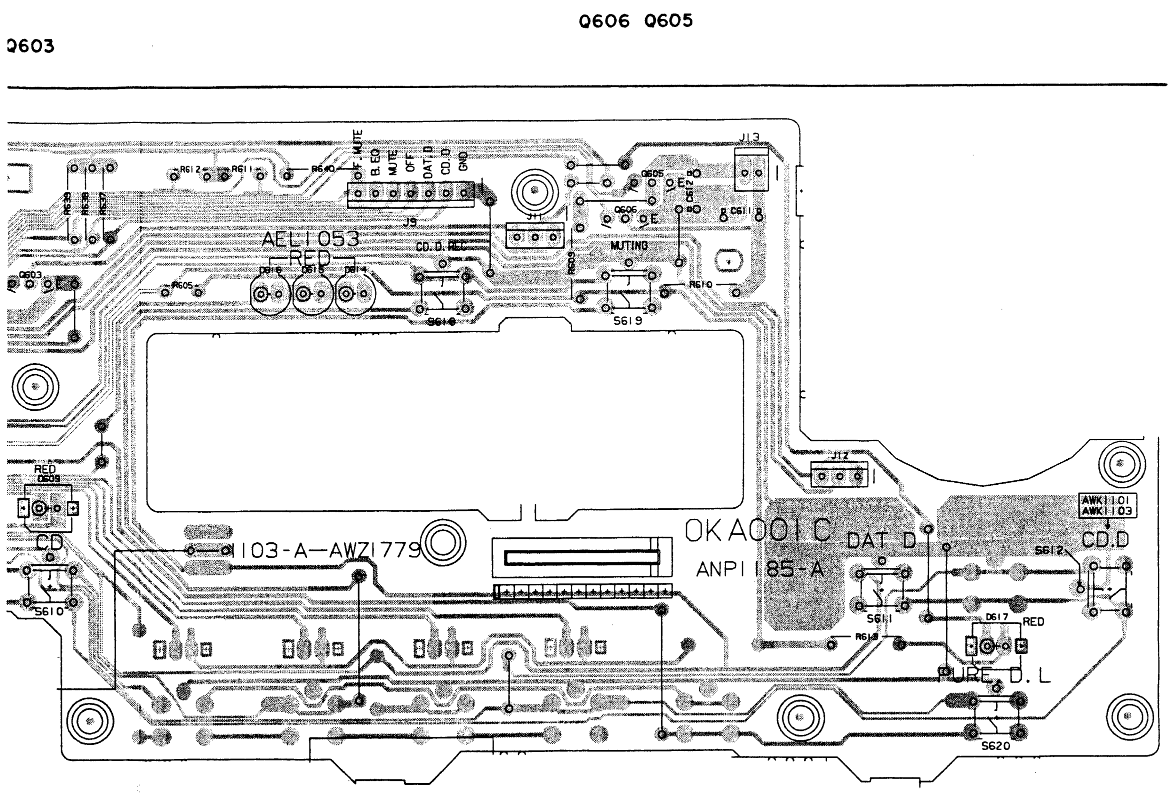
AF MAIN ASSEMBLY (AWZ 1777)


FU1
T2.5A
T2A
FU2
RY501
T501
IC501
E
F
J5
C501
A
C
Q3
Q1
J2
CN10
PA0016
CN6
RED
REM
DT
POWER
SP-A
SP-B
PROT
GND
R253
R259
R246
R247
R301

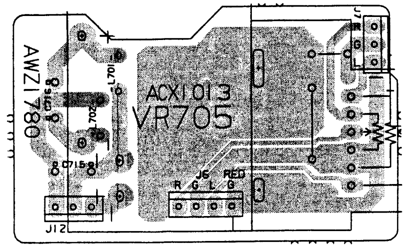
IC501 Q501–
Q301 Q30

IC201 Q209 Q211 Q207 Q215 Q213 Q203 Q201

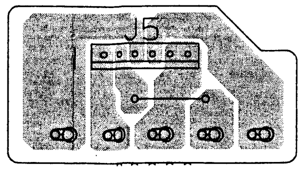
4
5
6
7
8
9


Q603
Q606 Q605
AEL1053
RED
OKA001C
ANP1185-A
1103-A—AWZ1779
AWK1101
AWK1103
DAT D
CD.D
CD
PURE D.L
MUTING
J13
J12
J11
J9
S610
S611
S612
S619
S620

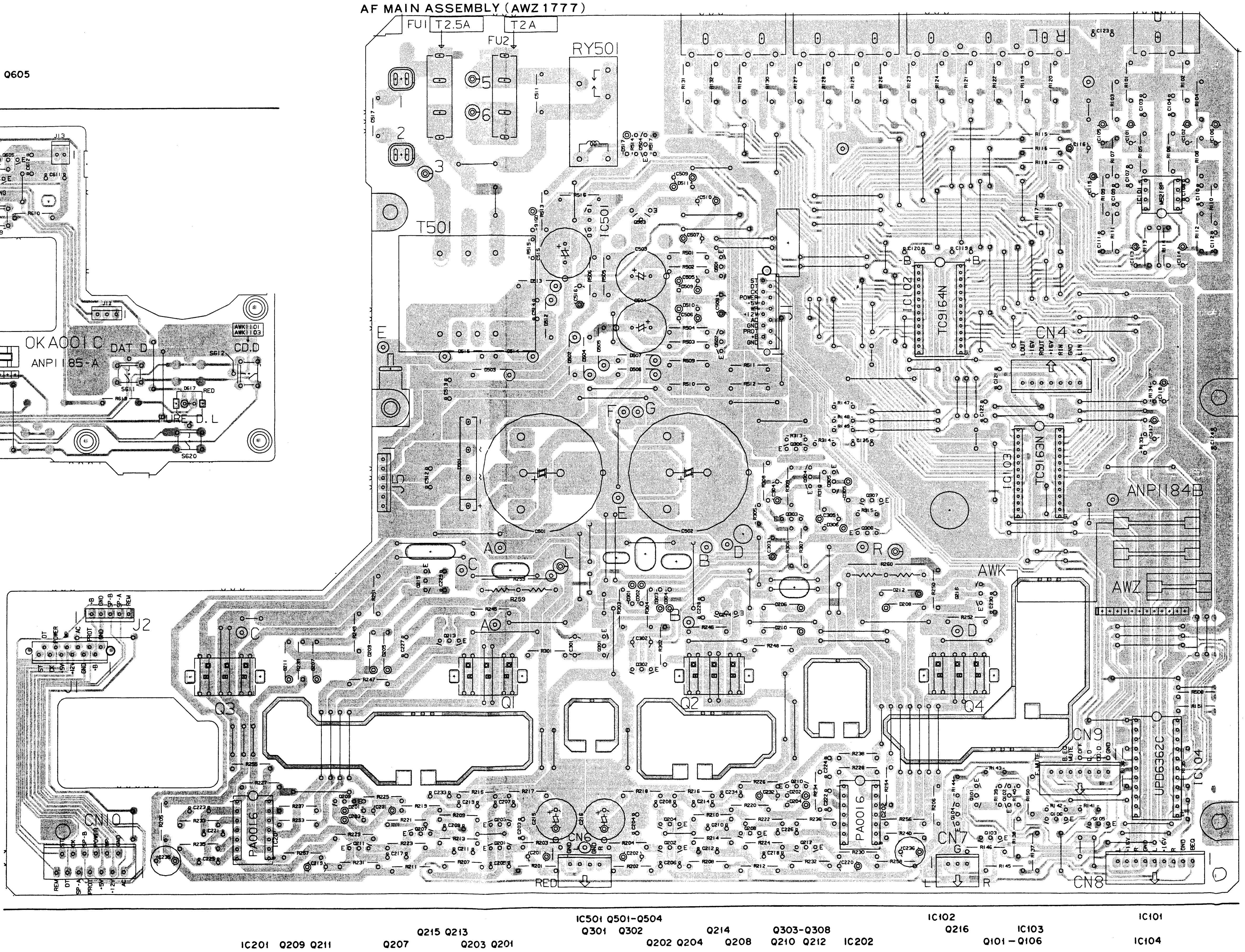
VR ASSEMBLY


AWZ1780
ACX1013
VR705
J6
J12

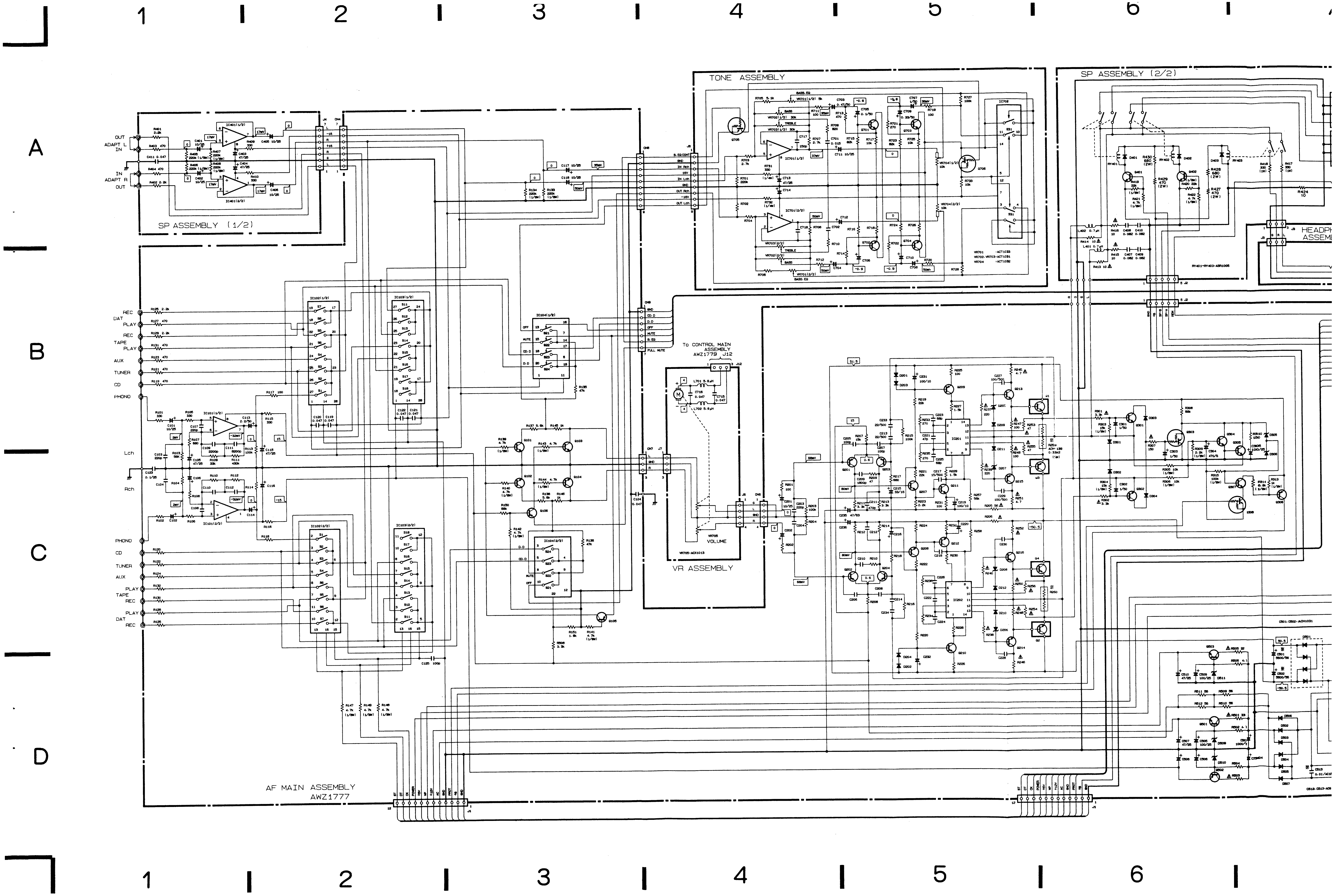
CONNECTOR ASSEMBLY

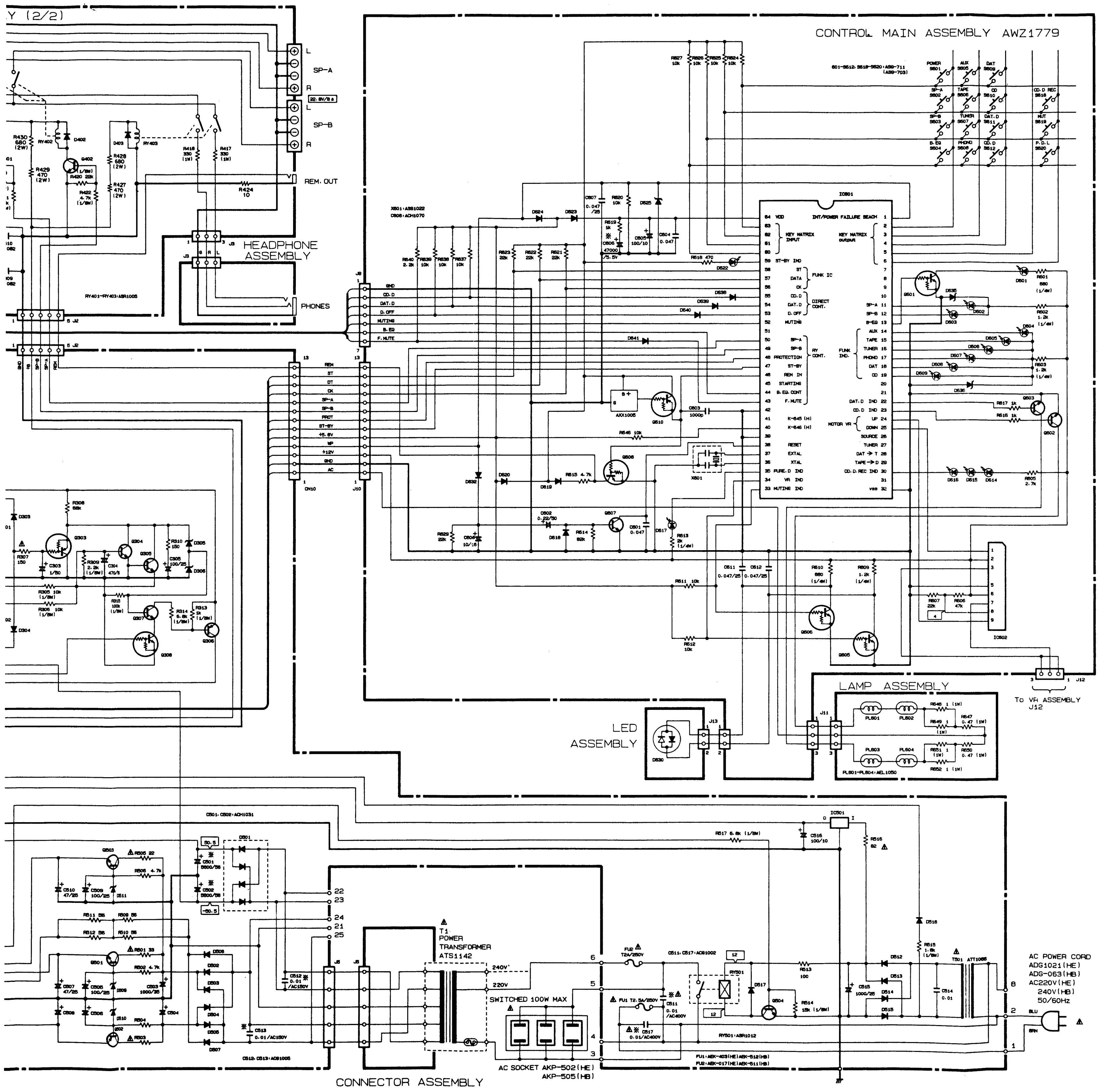


AF MAIN ASSEMBLY (AWZ 1777)


FU1 T2.5A
FU2 T2A
RY501
T501
IC501
C501
C502
C503
C504
IC102
TC9164N
IC103
TC9163N
CN4
ANP1184B
AWK
AWZ
J2
J5
Q1
Q2
Q3
Q4
PA0016
CN10
CN6
CN7
CN8
CN9
UPD6362C
IC104
IC101
RED
L
R
A
B
C
D
E
F
G
IC501 Q501–Q504
Q301 Q302
IC201 Q209 Q211
Q207
Q215 Q213
Q203 Q201
Q202 Q204
Q214
Q208
Q303–Q308
Q210 Q212
IC202
IC102
Q216
IC103
Q101–Q106
IC101
IC104
A
B
C
D

4
5
6
7
8
9


1
2
3
4
5
6
A
B
C
D
TONE ASSEMBLY
SP ASSEMBLY (2/2)
SP ASSEMBLY (1/2)
OUT
ADAPT L IN
IN
ADAPT R
OUT
IC401(1/2)
IC401(2/2)
IC701(1/2)
IC701(2/2)
IC702
BASS EQ
BASS
TREBLE
B.EQ CONT
GND
IN Rch
+15V
IN Lch
OUT Rch
-15V
OUT Lch
VR701 : ACT1033
VR702, VR703 : ACT1031
VR704 : ACT1032
RY401~RY403 : ASR1005
HEADPH
ASSEM
REC
DAT
PLAY
REC
TAPE
PLAY
AUX
TUNER
CD
PHONO
Lch
Rch
PHONO
CD
TUNER
AUX
PLAY
TAPE
REC
PLAY
DAT
REC
IC102(1/2)
IC103(1/2)
IC102(2/2)
IC103(2/2)
IC104(1/2)
IC104(2/2)
IC101(1/2)
IC101(2/2)
OFF
MUTE
CD.D
D.D
GND
CD.D
D.D
OFF
MUTE
FULL MUTE
B.EQ
To CONTROL MAIN ASSEMBLY
AWZ1779 J12
L701 5.6μH
L702 5.6μH
VR705
VOLUME
VR705 : ACX1013
VR ASSEMBLY
IC201
IC202
C501, C502 : ACH1031
AF MAIN ASSEMBLY
AWZ1777
ST
DT
CK
POWER
HPH
HP
+12V
AC
GND
PROT
MS
GND


Y (2/2)
SP-A
SP-B
REM. OUT
HEADPHONE ASSEMBLY
PHONES
CONTROL MAIN ASSEMBLY AWZ1779
LED ASSEMBLY
LAMP ASSEMBLY
TO VR ASSEMBLY J12
T1 POWER TRANSFORMER ATS1142
SWITCHED 100W MAX
AC SOCKET AKP-502(HE) AKP-505(HB)
AC POWER CORD ADG1021(HE) ADG-063(HB) AC220V(HE) 240V(HB) 50/60Hz
CONNECTOR ASSEMBLY

AF main assembly (AWZ1777)

Q3,Q4 Transistor	2SA1264N
Q1,Q2 Transistor	2SC3181N
IC101	M5218P
IC501	M5278L56
IC201,IC202	PA0016
IC103	TC9163N
IC102	TC9164N
IC104	μPD6362C
Q308	RN1201 (DTC143ES)
Q303	RN2203 (DTA124ES)
Q105,Q106	2SA1048
Q215,Q216	2SA[illegible] 5
Q201−Q204,Q209, Q210	2SA992
Q306,Q502	2SB560
Q213,Q214	2SC2235
Q207,Q208,Q211,Q212,Q301, Q302,Q307,Q504	2SC2240
Q304,Q305	2SC2458
Q101−Q104	2SC2878
Q501	2SD438
Q503	2SD880
D207,D208	HZS4BLL
D205,D206	HZS5BLL
D501	RBV402
D305	RD13ESB
D511	RD13ESB1
D509,D510	RD16ESB3
D306	RD5.6ESB
D502−D507,D512−D515	S5566 (11E2)
D201−D204,D209−D212, D301−D304,D516,D517	1SS252

1. RESISTORS:
   Indicated in Ω, ¼W, ⅛W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M); ±20% tolerance
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE, CURRENT:
   ▭V : Signal voltage at 62 W+ 62 W, 8Ω output (1kHz)
   ▭ : DC voltage (V) at no input signal
   Value in ( ) is DC voltage at rated power.
   ⇦ mA : DC current at no input signal
4. OTHERS:
   ➡ : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
5. SWITCH

S601	POWER	S609	DAT
S602	SP-A	S610	CD
S603	SP-B	S611	DAT.D
S604	B.EQ	S612	CD.D
S605	AUX	S618	CD.D REC
S606	TAPE	S619	MUT
S607	TUNER	S620	P.D.L
S608	PHONO		

Control main assembly (AWZ1779)

IC601	PDG022
IC602	TA7291S
Q601,Q605,Q606,Q608	RN1201 (DTC143ES)
Q610	RN2201 (DTA143ES)
Q602,Q603	2SC2235
Q607	2SC2458
D614−D616	AEL1053
D602−D609,D617,D622	AEL1072
D601	AEL1073
D635,D636	RD3.0ESB
D625	RD4.7ESB2
D618−D620,D623,D624,D632, D638−D641	1SS252

SP assembly

IC401	M5218PF
Q401,Q402	2SC2240
D401−D403	1SS252

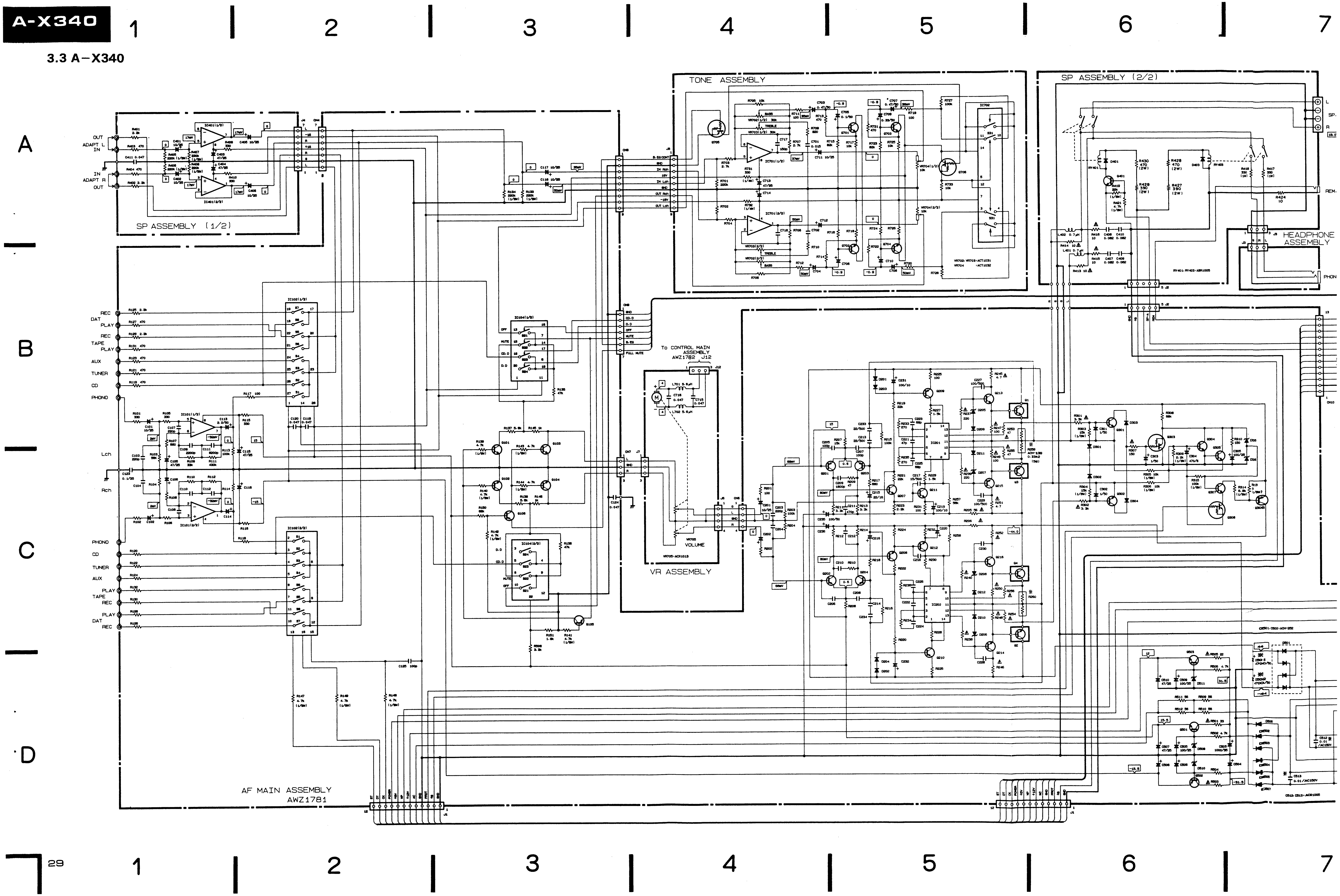
TONE assembly

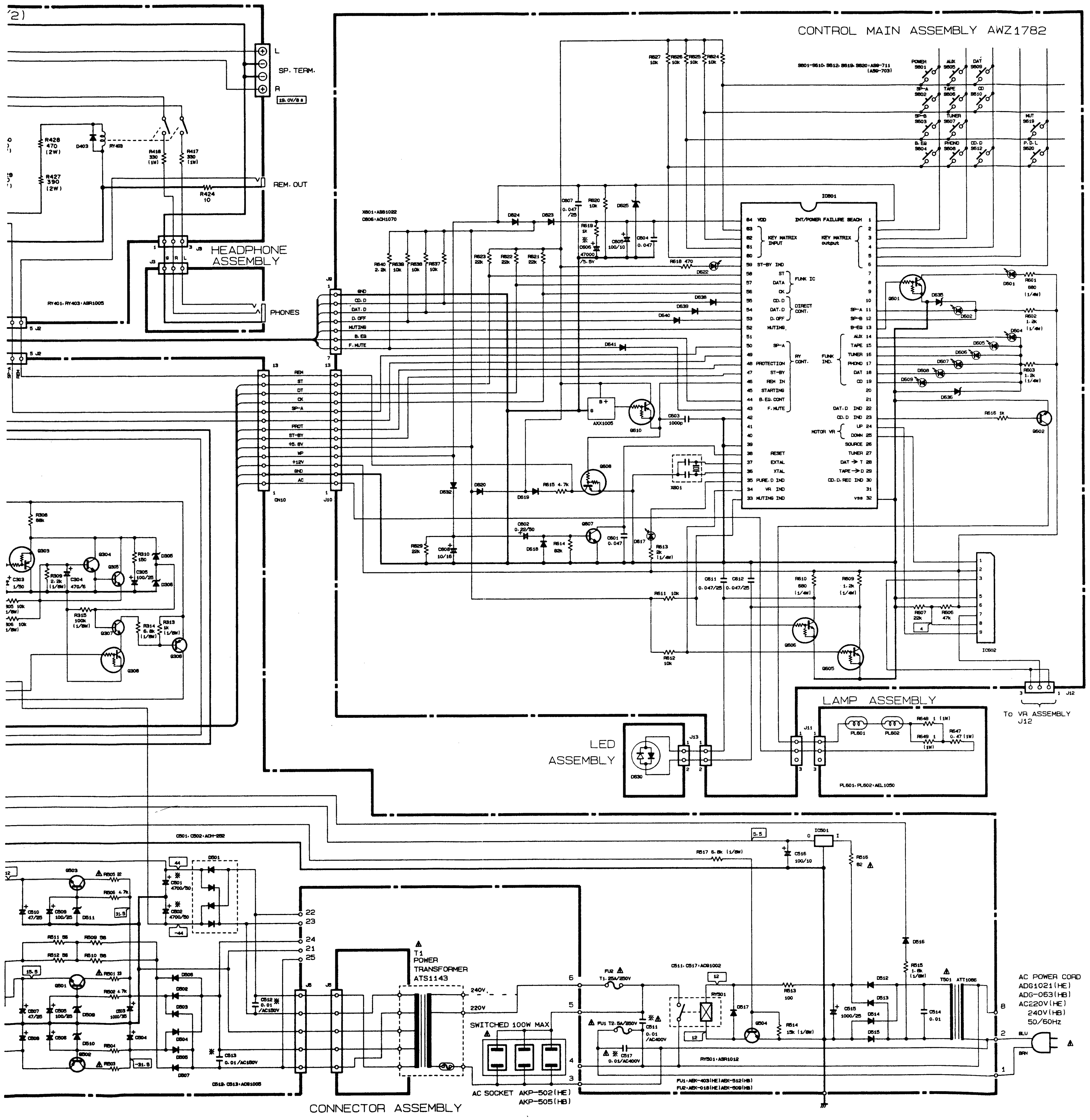
IC702	LC4966
IC701	M5218PF
Q705	RN1201 (DTC143ES)
Q706	RN2201 (DTA143ES)
Q701−Q704	2SC1740SLN

LED assembly

D630 LED	AEL1071

3.3 A-X340


1
2
3
4
5
6
7
A
B
C
D
OUT
ADAPT L IN
IN
ADAPT R
OUT
SP ASSEMBLY (1/2)
TONE ASSEMBLY
BASS
TREBLE
SP ASSEMBLY (2/2)
HEADPHONE ASSEMBLY
PHONE
REM.
SP.
L
R
REC
DAT
PLAY
REC
TAPE
PLAY
AUX
TUNER
CD
PHONO
Lch
Rch
PHONO
CD
TUNER
AUX
PLAY
TAPE
REC
PLAY
DAT
REC
IC102(1/2)
IC102(2/2)
IC101(1/2)
IC101(2/2)
IC104(1/2)
IC104(2/2)
IC401(1/2)
IC401(2/2)
IC701(1/2)
IC701(2/2)
IC201
IC202
To CONTROL MAIN ASSEMBLY
AWZ1782 J12
L701 5.6μH
L702 5.6μH
VR705
VOLUME
VR705 : ACX1013
VR ASSEMBLY
VR702, VR703 : ACT1031
VR704 : ACT1032
RY401, RY403 : ASR1005
C501, C502 : ACH-252
C512, C513 : ACG1005
AF MAIN ASSEMBLY
AWZ1781


CONTROL MAIN ASSEMBLY AWZ1782
SP. TERM.
REM. OUT
HEADPHONE ASSEMBLY
PHONES
IC601
LAMP ASSEMBLY
LED ASSEMBLY
To VR ASSEMBLY J12
T1 POWER TRANSFORMER ATS1143
SWITCHED 100W MAX
CONNECTOR ASSEMBLY
AC SOCKET AKP-502(HE) AKP-505(HB)
AC POWER CORD ADG1021(HE) ADG-063(HB) AC220V(HE) 240V(HB) 50/60Hz

AF main assembly (AWZ1781)

Q3,Q4 Transistor	2SA1263N
Q1,Q2 Transistor	2SC3180N
IC101	M5218P
IC501	M5278L56
IC201,IC202	PA0016
IC102	TC9164N
IC104	μPD6362C
Q308	RN1201 (DTC143ES)
Q303	RN2203 (DTA124ES)
Q105,Q106	2SA1048
Q215,Q216	2SA965
Q201,Q202,Q203,Q204,Q209, Q210	2SA992
Q306,Q502	2SB560
Q213,Q214	2SC2235
Q207,Q208,Q211,Q212,Q301, Q302,Q307,Q504	2SC2240
Q304,Q305	2SC2458
Q101 – Q104	2SC2878
Q501	2SD438
Q503	2SD880
D207,D208	HZS4BLL
D205,D206	HZS5BLL
D501	RBV402
D305	RD13ESB
D511	RD13ESB1
D509,D510	RD16ESB3
D306	RD5.6ESB
D502 – D507,D512 – D515	S5566 (11E2)
D201 – D204,D209 – D212, D301 – D304,D516,D517	1SS252

Control main assembly (AWZ1782)

IC601	PDG022
IC602	TA7291S
Q601,Q605,Q606,Q608	RN1201 (DTC143ES)
Q610	RN2201 (DTA143ES)
Q602	2SC2235
Q607	2SC2458
D602,D604,D605 – D609,D617, D622	AEL1072
D601	AEL1073
D635,D636	RD3.0ESB
D625	RD4.7ESB2
D618 – D620,D623,D624,D632, D638 – D641	1SS252

1. RESISTORS:
Indicated in Ω, ¼W, ⅛W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M); ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
[V] : Signal voltage at 45 W+ 4.5 W, 8Ω output (1kHz)
[ ] : DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power.
⇦ mA : DC current at no input signal

4. OTHERS:
➡ : Signal route.
⊘ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCH

S601	POWER	S608	PHONO
S602	SP-A	S609	DAT
S603	SP-B	S610	CD
S604	B.EQ	S612	CD.D
S605	AUX	S619	MUT
S606	TAPE	S620	P.D.L
S607	TUNER		

SP assembly

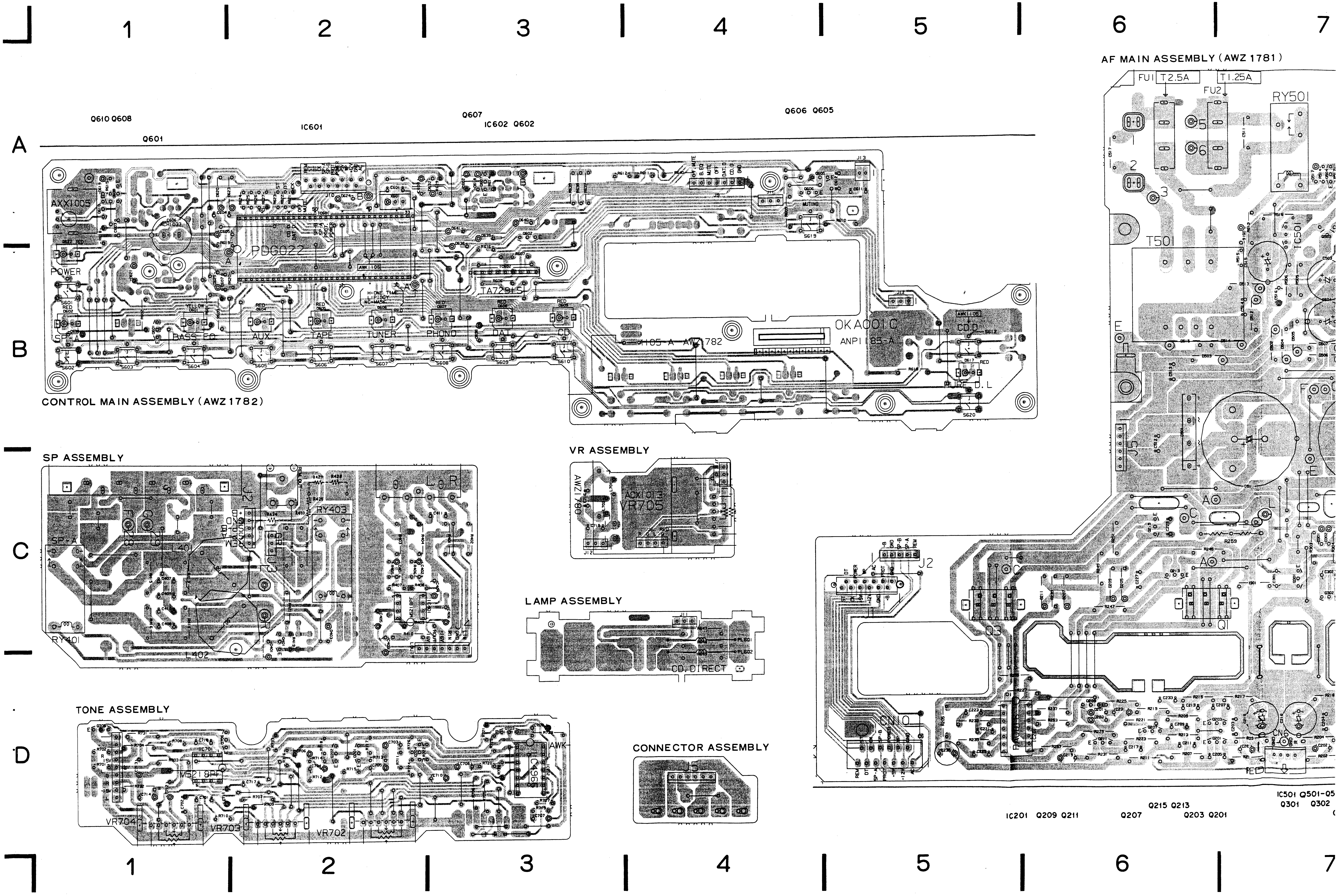
IC401	M5218PF
Q401	2SC2240
D401,D403	1SS252

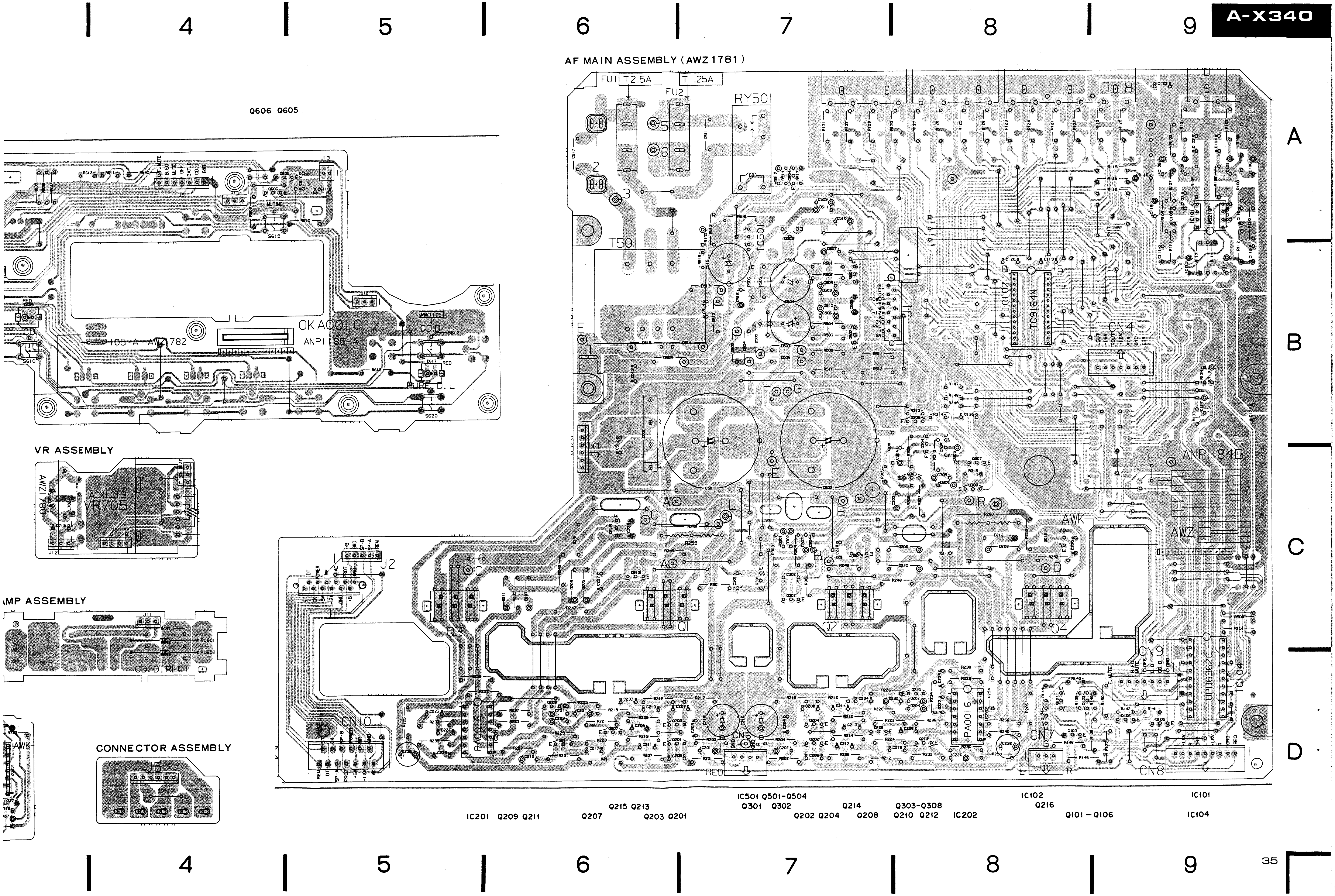
TONE assembly

IC702	LC4966
IC701	M5218PF
Q705	RN1201 (DTC143ES)
Q706	RN2201 (DTA143ES)
Q701 – Q704	2SC1740SLN

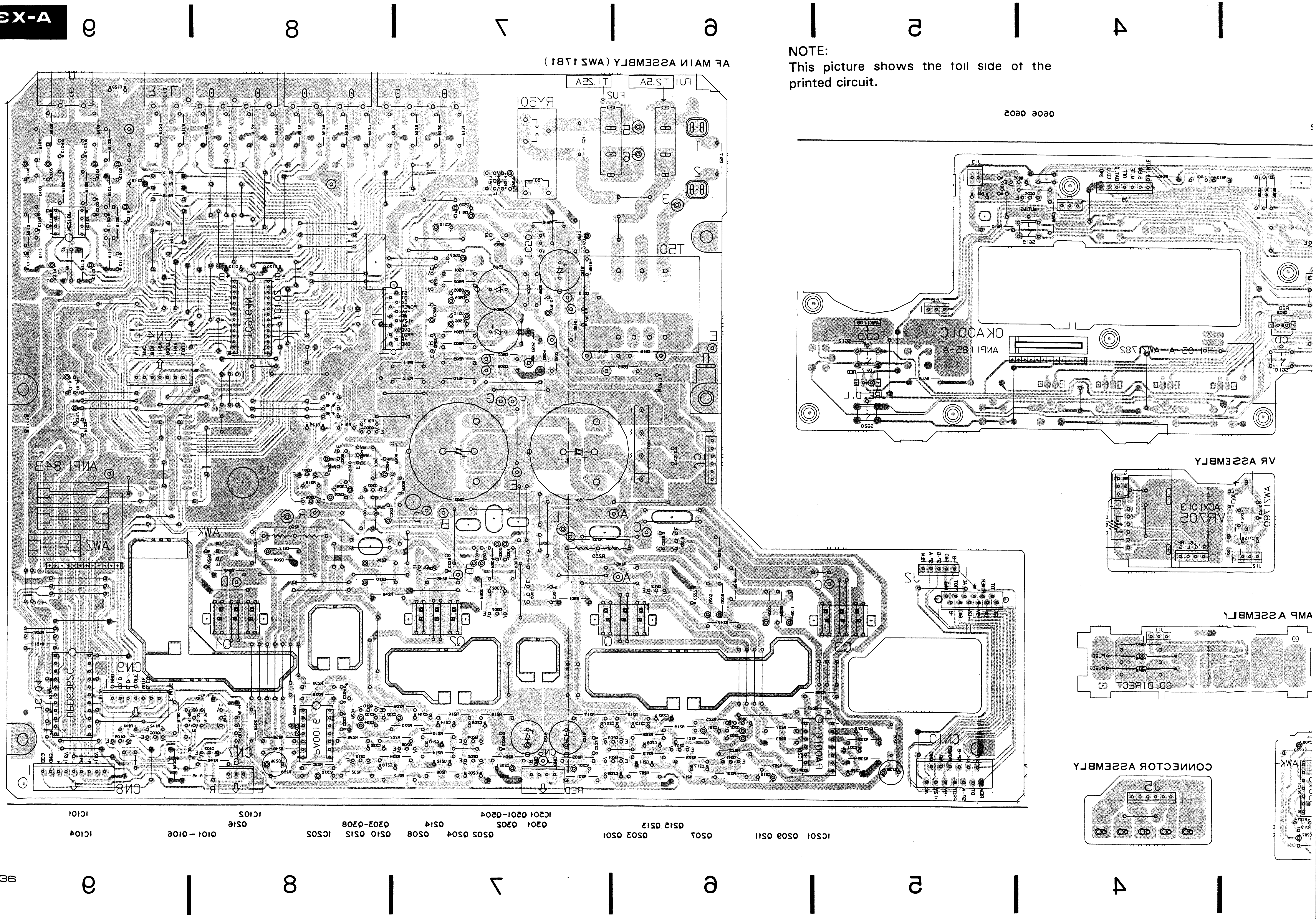
LED assembly

D630 LED	AEL1071

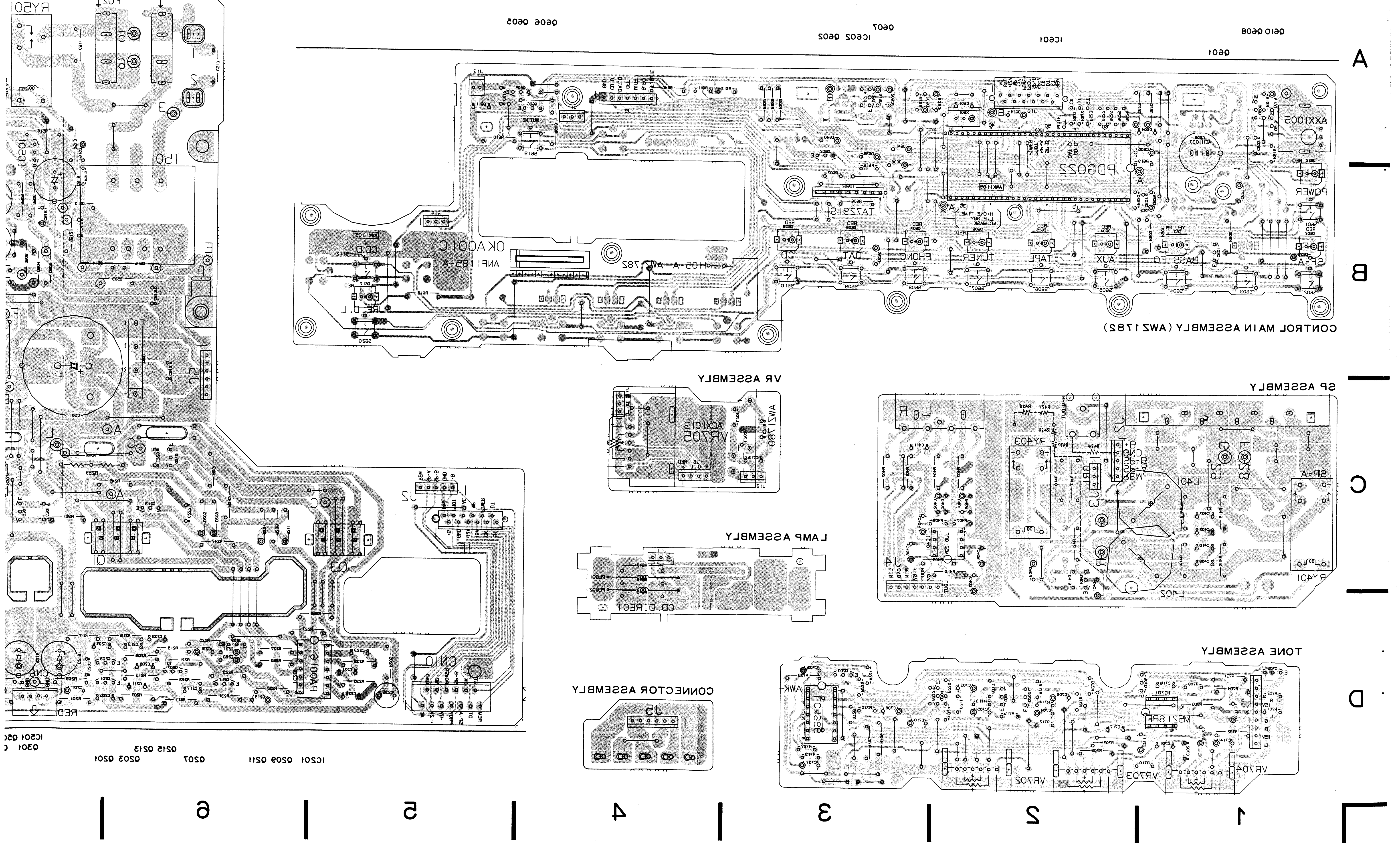

1
2
3
4
5
6
7
A
B
C
D
AF MAIN ASSEMBLY (AWZ 1781)
FU1 T2.5A
FU2 T1.25A
RY501
T501
Q610 Q608
Q601
IC601
Q607
IC602 Q602
Q606 Q605
AXX1005
POWER
PDG022
AWK1105
TA7291S
OKA001C
ANP1185-A
CD D
PURE D.L
SP-A
BASS EQ
AUX
TAPE
TUNER
PHONO
DAT
CD
S601
S602
S603
S604
S605
S606
S607
S608
S609
S610
S619
S620
CONTROL MAIN ASSEMBLY (AWZ1782)
SP ASSEMBLY
SP-A
RY401
RY403
L401
L402
J2
VR ASSEMBLY
AWZ1780
ACX1011
VR705
J12
LAMP ASSEMBLY
J11
PL601
PL602
CD DIRECT
TONE ASSEMBLY
M5218P
IC701
AWK
C496
VR704
VR703
VR702
CONNECTOR ASSEMBLY
J5
J2
CN10
CN6
Q3
Q1
IC201 Q209 Q211
Q207
Q215 Q213
Q203 Q201
IC501 Q501-05
Q301 Q302


4
5
6
7
8
9
A
B
C
D
AF MAIN ASSEMBLY (AWZ1781)
FU1 T2.5A
FU2 T1.25A
RY501
T501
IC501
IC102
TC9164N
CN4
ANP1184B
AWK
AWZ
CN9
UPD6362C
IC104
PA0016
CN10
CN6
CN7
CN8
J2
Q1
Q2
Q3
Q4
RED
Q606 Q605
OKA001C
ANP1185-A
AWK1105
AWZ1782
CD.D
PURE.D.L
VR ASSEMBLY
AWZ1780
ACX1013
VR705
J12
AMP ASSEMBLY
CD.DIRECT
AWK
CONNECTOR ASSEMBLY
J5
IC201 Q209 Q211
Q207
Q215 Q213
Q203 Q201
IC501 Q501-Q504
Q301 Q302
Q202 Q204
Q214
Q208
Q303-Q308
Q210 Q212
IC202
IC102
Q216
Q101 - Q106
IC101
IC104

NOTE:
This picture shows the foil side of the printed circuit.

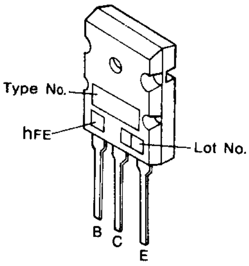

9
8
7
6
5
4
A
B
C
D
AF MAIN ASSEMBLY (AWZ 1781)
FU1 T2.5A
FU2 T1.25A
RY501
T501
IC501
CN4
CN9
CN8
CN7
CN6
CN10
J2
J5
ANP1184B
AWZ
AWK
Q1
Q2
Q3
Q4
IC101
IC104
IC102
IC201
IC202
PA0016
Q606 Q605
OKA001C
ANP1185-A
AWK1105
AWZ1782
VR ASSEMBLY
AWZ1780
ACX1013
VR705
AMP ASSEMBLY
CD.DIRECT
CONNECTOR ASSEMBLY
J5
MUTING
IC101
IC104
Q101 – Q106
IC102
Q216
IC202
Q303 – Q308
Q210 Q212
Q214
Q208
Q202 Q204
IC501 Q501 – Q504
Q301 Q302
Q215 Q213
Q203 Q201
Q207
IC201 Q209 Q211

NOTE:
This picture shows the foil side of the printed circuit.

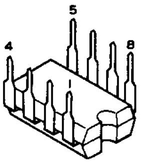

AF MAIN ASSEMBLY (AWZ1781)
CONTROL MAIN ASSEMBLY (AWZ1782)
VR ASSEMBLY
SP ASSEMBLY
LAMP ASSEMBLY
TONE ASSEMBLY
CONNECTOR ASSEMBLY
Q606 Q605
Q607
IC602 Q602
IC601
Q610 Q608
Q601
IC201 Q209 Q211
Q207
Q215 Q213
Q203 Q204
IC501
Q301
A
B
C
D
6
5
4
3
2
1
FU1 T2.5A
FU2 T1.25A
RY501
T501
PDG022
AXX1005
POWER
BASS EQ
AUX
TAPE
TUNER
PHONO
DAT
CD
CD.D
OKA001C
ANP1185-A
TA7291S
ACX1013
VR705
AWZ780
CD DIRECT
RY403
RY401
L401
L402
SP-A
M5218P
VR702
VR703
VR704
CN10
PA0016
J5

External Appearances of Transistor and ICs

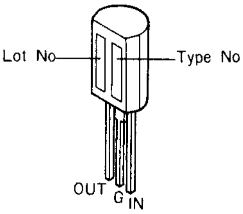
2SA1302
2SC3281


Type No.
hFE
Lot No.
B
C
E

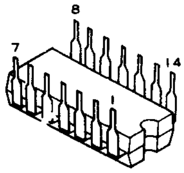
M5218P
M5218PF



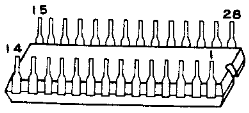
M5278L56


Lot No
Type No
OUT
G
IN

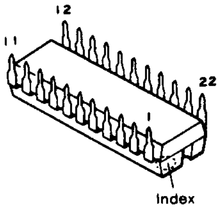
PA0016
LC4966



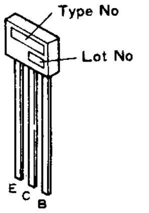
TC9163N
TC9164N



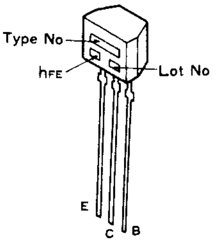
µPD6362C


12
11
22
1
Index

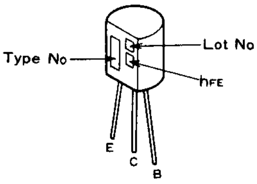
RN1201
RN2203
RN2201


Type No
Lot No
E
C
B

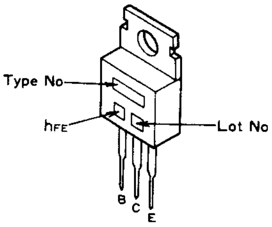
2SA1048
2SC2458


Type No
hFE
Lot No
E
C
B

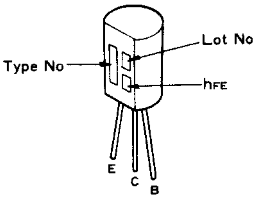
2SA1145
2SC2240
2SC2878
2SC2705


Type No
Lot No
hFE
E
C
B

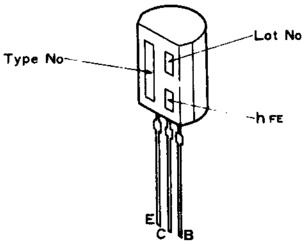
2SA968
2SD880
2SC2238


Type No
hFE
Lot No
B
C
E

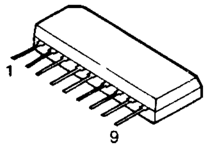
2SA992
2SC1845


Lot No
Type No
hFE
E
C
B

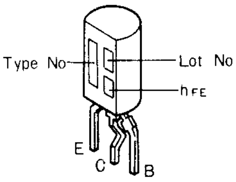
2SB560
2SD438


Lot No
Type No
h FE
E
C
B

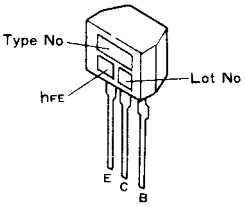
TA7291S



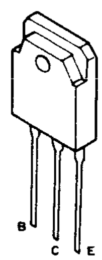
2SC2235
2SA965


Type No
Lot No
hFE
E
C
B

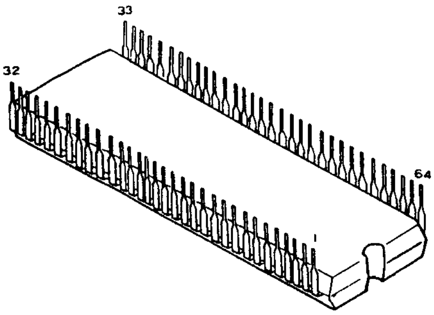
2SC1740SLN


Type No
hFE
Lot No
E
C
B

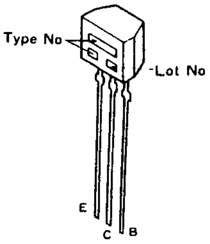
2SA1263N
2SC3180N
2SA1264N
2SC3181N



PDG022



DTA143ES
DTC143ES
DTA124ES


Type No
Lot No
E
C
B

4. ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).
  560Ω 56×10^1 561..........................RD1/4PS$\boxed{5}\boxed{6}\boxed{1}$J
  47kΩ 47×10^3 473..........................RD1/4PS$\boxed{4}\boxed{7}\boxed{3}$J
  0.5Ω 0R5..RN2H$\boxed{0}\boxed{R}\boxed{5}$K
  1Ω 010..RS1P$\boxed{0}\boxed{1}\boxed{0}$K

  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
  5.62kΩ 562×10^1 5621........................RN1/4SR$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

4.1 A−X540

Miscellaneous Parts List

P.C.BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	AF main assembly	AWZ1770
	Control main assembly	AWZ1772
	SP assembly	
	HEADPHONE assembly	
	TONE assembly	
	LAMP assembly	
	VR assembly	
	LED assembly	

OTHERS

Mark	Symbol & Description	Part No.
★★	Q3,Q4 Transistor	2SA1302
★★	Q1,Q2 Transistor	2SC3281
⚠ ★	T1 Power transformer (220V/240V)	ATS1141
	Jumper plug	AKM1019
⚠	AC socket (3P OUTLET)	AKP−502
⚠★★	FU1,FU2 Fuse (T2.5A/250V)	AEK−403
⚠	AC power cord	ADG1021
	Remote control unit	AXD1053

AF main assembly (AWZ1770)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101	M5218P
★★	IC501	M5278L56
★★	IC201,IC202	PA0016
★★	IC103	TC9163N
★★	IC102	TC9164N
★★	IC104	μPD6362C
★★	Q308	RN1201 (DTC143ES)
★★	Q303	RN2203 (DTA124ES)
★★	Q105,Q106	2SA1048
★★	Q209,Q210	2SA1145
★★	Q215,Q216	2SA968
★★	Q201−Q204	2SA992
★★	Q306,Q502	2SB560
★★	Q207,Q208,Q301,Q302	2SC1845
★★	Q213,Q214	2SC2238
★★	Q307,Q504	2SC2240
★★	Q304,Q305	2SC2458
★★	Q211,Q212	2SC2705
★★	Q101−Q104	2SC2878
★★	Q501	2SD438
★★	Q503	2SD880
★	D501	D5SB20F
★	D207,D208	HZS5BLL
★	D205,D206	HZS5CLL
★	D305	RD13ESB
★	D511	RD13ESB1
★	D509,D510	RD16ESB3
★	D306	RD5.6ESB
★	D502−D507,D512−D515	S5566 (11E2)
★	D201−D204,D209−D212, D301−D304,D516,D517	1SS252

RELAY

Mark	Symbol & Description	Part No.
⚠★★	RY501 Relay	ASR−516

TRANSFORMER

Mark	Symbol & Description	Part No.
⚠ ★	T501 Power tranaformer	ATT1066

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C511 Power capacitor (0.01/AC400V)	ACG1002
	C512,C513 Power capacitors (0.01/AC150V)	ACG1005
	C501,C502 (8200/71)	ACH1074
	C227−C230	CCCSL101K500
⚠	C517 Power capacitor (0.01/AC400V)	ACG1003
	C217,C218	CCCSL150K500
	C213,C214,C233,C234	CCCSL220K500
	C103,C104,C107,C108,C203, C204	CKMYB221K50
	C221,C222	CCCSL470J50
	C223−C226	CCCSL680J50
	C125,C205−C208	CCMSL101J50
	C301,C302	CEANP010M50
	C303	CEAS010M50
	C101,C102,C117,C118	CEAS100M25
	C305,C509,C516	CEAS101M25
	C515	CEAS102M25
	C503,C504	CEAS102M35
	C113,C114	CEAS2R2M50
	C105,C106,C115,C116,C510	CEAS470M25
	C304	CEAS471M6
	C235,C236	CEXA470M63
	C201,C202	CEYA100M25
	C215,C216,C231,C232,C505, C506	CEYA101M25
	C507,C508	CEYA470M25
	C514	CKCYB103K50
	C209,C210	CKCYB182K50
	C211,C212	CKCYB471K50
	C119−C122,C124	CKCYF473Z50
	C123	CKCYX104M25
	C109,C110	CQMA222J50
	C111,C112	CQMA822J50
	C219,C220	CEYA101M16

RESISTORS

Mark	Symbol & Description	Part No.
	R259,R260 (0.33 × 2/5W)	ACN−139
	R201,R202,R215−R218	RDR1/4PM□□□J
⚠	R205,R206,R516	RD1/4PMFL□□□J
⚠	R247−R250,R307,R237−R240, R301,R302,R253−R256	RD1/4PMF□□□J
	R313,R303−R306,R315,R514, R515,R309,R133,R134,R314, R139−R144,R147−R149,R517	RD1/8PM□□□J
⚠	R505,R501,R503,R245,R246, R251,R252	RFA1/4PS□□□J
	Other resistors	RD1/4PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Pin jack (TAPE)	AKB1007
	4P Pin jack (DAT)	AKB1051
	2P Pin jack (PHONO)	AKB1052
	6P Pin jack (CD, TUNER, AUX)	AKB1053
	Transistor socket	AKH−017

Control main assembly (AWZ1772)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC601	PDG022
★★	IC602	TA7291S
★★	Q601,Q605,Q606,Q608	RN1201 (DTC143ES)
★★	Q609−Q611	RN2201 (DTA143ES)
★★	Q602,Q603	2SC2235
★★	Q607,Q612−Q614,Q604	2SC2458
★	D614−D616	AEL1053
★	D602−D613,D617,D622	AEL1072
★	D601	AEL1073
★	D635,D636	RD3.0ESB
★	D625	RD4.7ESB2
★	D618−D621,D623,D624, D626−D629,D631−D634, D637−D641	1SS252

SWITCHES

Mark	Symbol & Description	Part No.
★★	S601−S620 Tact switch (POWER, SP-A, SP-B, BASS EQ, AUX, TAPE, TUNER, PHONO, DAT, CD, DAT D, CD D, SOURCE, TUNER, DAT ▶ TAPE, TAPE ▶ DAT, OFF, CD D REC, MUTING, PURE.D.L)	ASG−711 (ASG−703)

CAPACITORS

Mark	Symbol & Description	Part No.
	C606 (47000μF/5.5V)	ACH1037
	C602	CEJAR22M50
	C609,C608	CEJA100M16
	C605	CEJA101M10

Mark	Symbol & Description	Part No.
	C610	CEJA4R7M50
	C603	CKDYB102K50
	C601,C604	CKDYF473Z50
	C607,C611,C612	CKDYX473M25

RESISTORS

Mark	Symbol & Description	Part No.
	R601 – R604,R609,R613,R610	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X601 Ceramic resonator (4.19MHz)	ASS1022
	Remote control sensor unit	AXX1005

SP assembly

SEMICONDUCTERS

Mark	Symbol & Description	Part No.
★★	IC401	M5218PF
★★	Q401,Q402	2SC2235
★	D401 – D403	1SS252

RELAIES

Mark	Symbol & Description	Part No.
★★	RY401,RY402 Relay	ASR – 112
★★	RY403 Relay	ASR1005

COILS

Mark	Symbol & Description	Part No.
	L401,L402 AF choke coil (0.7μF)	ATH1011

CAPACITORS

Mark	Symbol & Description	Part No.
	C401,C402,C405,C406	CEAS100M25
	C403,C404	CEAS470M25
	C407 – C410	CFTXA823J50
	C411	CKCYF473Z50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R415,R416	RD1/4PMFL100J
⚠	R413,R414	RD1/4PMF100J
	R401 – R404,R409,R410,R424	RD1/4PM□□□J
	R427,R429	RS2PMF681J
	R428,R430	RS2PMF821J
	R417,R418	RS2LMF331J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Pin jack (ADAPTOR)	AKB1033
	8P Speaker terminal (SPEAKERS)	AKE – 111
	Mini jack (CONTROL)	AKN – 207

HEADPHONE assembly

RESISTORS

Mark	Symbol & Description	Part No.
	R425,R426	RS1PMF122J

OTHERS

Mark	Symbol & Description	Part No.
	Headphone jack (PHONES)	AKN1002

TONE assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC702	LC4966
★★	IC701	M5218PF
★★	Q705	RN1201 (DTC143ES)
★★	Q706	RN2201 (DTA143ES)
★★	Q701 – Q704	2SC1740SLN

CAPACITORS

Mark	Symbol & Description	Part No.
	C709,C710	CEASR33M50
	C703,C704	CEASR47M50
	C705,C706	CEAS0R1M50
	C707,C708	CEAS010M50
	C711,C712	CEAS100M25
	C713,C714	CEAS470M25
	C717,C718	CKMYB151K50
	C701,C702	CQMA153K50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR702,VR703 Variable resistor (30k × 2)	ACT1031
★	VR704 Variable resistor (10k × 2)	ACT1032
★	VR701 Variable resistor (5k × 2)	ACT1033
	R731,R732	RD1/4PM331J
	Other resistors	RD1/8PM□□□J

LAMP assembly

RESISTORS

Mark	Symbol & Description	Part No.
	R647,R650	RS1PMFR47J
	R648,R649,R651,R652	RS1PMF010J

OTHERS

Mark	Symbol & Description	Part No.
★★	PL601 – PL604 Pilot lamp	AEL1050
	Lamp box	AMR1342

VR assembly

COILS

Mark	Symbol & Description	Part No.
	L701,L702 Axial inductor (5.6μH)	LAU5R6K

CAPACITORS

Mark	Symbol & Description	Part No.
	C715,C716	CKCYF473Z50

RESISTOR

Mark	Symbol & Description	Part No.
★	VR705 Variable resistor (100k × 2)	ACX1012

LED assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★	D630 LED	AEL1071

4.2 A – X440

Miscellaneous Parts List

P.C.BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	AF main assembly	AWZ1777
	Control main assembly	AWZ1779
	SP assembly	
	HEADPHONE assembly	
	CONNECTOR assembly	
	TONE assembly	
	LAMP assembly	
	VR assembly	
	LED assembly	

OTHERS

Mark	Symbol & Description	Part No.
★★	Q3,Q4 Transistor	2SA1264N
★★	Q1,Q2 Transistor	2SC3181N
⚠ ★	T1 Power transformer (220V/240V)	ATS1142
⚠	AC socket (3P OUTLET)	AKP – 502
⚠★★	FU2 Fuse (T2A/250V)	AEK – 017
⚠★★	FU1 Fuse (T2.5A/250V)	AEK – 403
⚠	AC power cord	ADG1021
	Remote control unit	AXD1053

AF main assembly (AWZ1777)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101	M5218P
★★	IC501	M5278L56
★★	IC201,IC202	PA0016
★★	IC103	TC9163N
★★	IC102	TC9164N
★★	IC104	μPD6362C
★★	Q308	RN1201 (DTC143ES)
★★	Q303	RN2203 (DTA124ES)
★★	Q105,Q106	2SA1048
★★	Q215,Q216	2SA965
★★	Q201 – Q204,Q209, Q210	2SA992
★★	Q306,Q502	2SB560
★★	Q213,Q214	2SC2235
★★	Q207,Q208,Q211,Q212,Q301, Q302,Q307,Q504	2SC2240
★★	Q304,Q305	2SC2458
★★	Q101 – Q104	2SC2878
★★	Q501	2SD438
★★	Q503	2SD880
★	D207,D208	HZS4BLL
★	D205,D206	HZS5BLL
★	D501	RBV402
★	D305	RD13ESB
★	D511	RD13ESB1
★	D509,D510	RD16ESB3
★	D306	RD5.6ESB
★	D502 – D507,D512 – D515	S5566 (11E2)
★	D201 – D204,D209 – D212, D301 – D304,D516,D517	1SS252

RELAY

Mark	Symbol & Description	Part No.
⚠★★	RY501 Relay	ASR1012

TRANSFORMER

Mark	Symbol & Description	Part No.
⚠ ★	T501 Power transformer	ATT1066

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C511,C517 Power capacitors (0.01/AC400V)	ACG1002
	C512,C513 Power capacitors (0.01/AC150V)	ACG1005
	C501,C502 (5600/56)	ACH1031
	C227−C230	CCCSL101K500
	C217,C218	CCCSL150K500
	C213,C214,C233,C234	CCCSL220K500
	C103,C104,C107,C108,C203, C204	CKMYB221K50
	C221,C222	CCCSL470J50
	C223−C226	CCCSL680J50
	C125,C205−C208	CCMSL101J50
	C301,C302	CEANP010M50
	C303	CEAS010M50
	C101,C102,C117,C118	CEAS100M25
	C516,C219,C220,C231,C232	CEAS101M10
	C305,C505,C506,C509	CEAS101M25
	C515	CEAS102M25
	C503,C504	CEAS102M35
	C113,C114	CEAS2R2M50
	C105,C106,C115,C116,C507, C508,C510	CEAS470M25
	C304	CEAS471M6
	C235,C236	CEXA470M63
	C201,C202	CEYA100M25
	C215,C216	CEYA330M16
	C514	CKCYB103K50
	C209,C210	CKCYB182K50
	C109,C110	CKCYB222K50
	C211,C212	CKCYB471K50
	C111,C112	CKCYB822K50
	C119−C122,C124	CKCYF473Z50
	C123	CKCYX104M25

RESISTORS

Mark	Symbol & Description	Part No.
	R259,R260 (0.33×2/5W)	ACN−139
	R201,R202	RDR1/4PM101J
⚠	R205,R206,R516,R247−R250, R307,R237−R240,R301,R302, R253−R256	RD1/4PMF□□□J
	R313,R303−R306,R315,R514, R515,R309,R133,R134,R139−R144,R147−R149,R314,R517	RD1/8PM□□□J
⚠	R505,R501,R503,R245,R246, R251,R252	RFA1/4PS□□□J
	Other resistors	RD1/4PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Pin jack (DAT, TAPE)	AKB1007
	6P Pin jack (CD, TUNER, AUX)	AKB1024
	2P Pin jack (PHONO)	AKB1039

Control main assembly (AWZ1779)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC601	PDG022
★★	IC602	TA7291S
★★	Q601,Q605,Q606,Q608	RN1201 (DTC143ES)
★★	Q610	RN2201 (DTA143ES)
★★	Q602,Q603	2SC2235
★★	Q607	2SC2458
★	D614−D616	AEL1053
★	D602−D609,D617,D622	AEL1072
★	D601	AEL1073
★	D635,D636	RD3.0ESB
★	D625	RD4.7ESB2
★	D618−D620,D623,D624,D632, D638−D641	1SS252

SWITCHES

Mark	Symbol & Description	Part No.
★★	S601−S612,S618−S620 Tact switch (POWER, SP-A, SP-B, BASS EQ, AUX, TAPE, TUNER, PHONO, DAT, CD, DAT.D, CD.D, CD.D REC, MUTING, PURE.D.L)	ASG−711 (ASG−703)

CAPACITORS

Mark	Symbol & Description	Part No.
	C606 (47000μF/5.5V)	ACH1070
	C602	CEJAR22M50
	C608	CEJA100M16
	C605	CEJA101M10
	C603	CKDYB102K50
	C601,C604	CKDYF473Z50
	C607,C611,C612	CKDYX473M25

RESISTORS

Mark	Symbol & Description	Part No.
	R601−R603,R609,R610,R613	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X601 Ceramic resonator (4.19MHz)	ASS1022
	Remote control sencer unit	AXX1005

SP assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC401	M5218PF
★★	Q401,Q402	2SC2240
★	D401 – D403	1SS252

RELAIES

Mark	Symbol & Description	Part No.
★★	RY401,RY402,RY403 Relay	ASR1005

COILS

Mark	Symbol & Description	Part No.
	L401,L402 AF choke coil (0.7μH)	ATH1004

CAPACITORS

Mark	Symbol & Description	Part No.
	C401,C402,C405,C406	CEAS100M25
	C403,C404	CEAS470M25
	C411	CKCYF473Z50
	C407 – C410	CFTXA823K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R415,R416	RD1/4PMFL100J
⚠	R413,R414	RD1/4PMF100J
	R401 – R404,R409,R410,R424	RD1/4PM□□□J
	R417,R418	RS1LMF□□□J
	R427,R429	RS2PMF471J
	R428,R430	RS2PMF681J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Pin jack (ADAPTOR)	AKB1033
	8P Speaker terminal (SPEAKERS)	AKE – 111
	Mini jack (CONTROL)	AKN – 207

HEADPHONE assembly

OTHER

Mark	Symbol & Description	Part No.
	Headphone jack (PHONES)	AKN1002

CONNECTOR assembly

No parts are supplied with the CONNECTOR assembly.

TONE assembly

Refer to A–X540.

LAMP assembly

Refer to A–X540.

VR assembly

COILS

Mark	Symbol & Description	Part No.
	L701,L702 Axial inductor (5.6μH)	LAU5R6K

CAPACITORS

Mark	Symbol & Description	Part No.
	C715,C716	CKCYF473Z50

RESISTOR

Mark	Symbol & Description	Part No.
★	VR705 Variable resistor (100k × 2)	ACX1013

LED assembly

Refer to A–X540.

4.3 A – X340

Miscellaneous Parts List

P.C.BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	AF main assembly	AWZ1781
	Control main assembly	AWZ1782
	SP assembly	
	HEADPHONE assembly	
	CONNECTOR assembly	
	TONE assembly	
	LAMP assembly	
	VR assembly	
	LED assembly	

OTHERS

Mark	Symbol & Description	Part No.
★★	Q3,Q4 Transistor	2SA1263N
★★	Q1,Q2 Transistor	2SC3180N
⚠ ★	T1 Power transformer (220V/240V)	ATS1143
⚠	AC socket (3P OUTLET)	AKP – 502
⚠★★	FU2 Fuse (T1.25A/250V)	AEK – 018
⚠★★	FU1 Fuse (T2.5A/250V)	AEK – 403
⚠	AC Power cord	ADG – 063
	Remote control unit	AXD1052

AF main assembly (AWZ1781)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101	M5218P
★★	IC501	M5278L56
★★	IC201,IC202	PA0016
★★	IC102	TC9164N
★★	IC104	μPD6362C
★★	Q308	RN1201 (DTC143ES)
★★	Q303	RN2203 (DTA124ES)
★★	Q105,Q106	2SA1048
★★	Q215,Q216	2SA965
★★	Q201,Q202,Q203,Q204,Q209, Q210	2SA992
★★	Q306,Q502	2SB560
★★	Q213,Q214	2SC2235
★★	Q207,Q208,Q211,Q212,Q301, Q302,Q307,Q504	2SC2240
★★	Q304,Q305	2SC2458
★★	Q101−Q104	2SC2878
★★	Q501	2SD438
★★	Q503	2SD880
★	D207,D208	HZS4BLL
★	D205,D206	HZS5BLL
★	D501	RBV402
★	D305	RD13ESB
★	D511	RD13ESB1
★	D509,D510	RD16ESB3
★	D306	RD5.6ESB
★	D502−D507,D512−D515	S5566 (11E2)
★	D201−D204,D209−D212, D301−D304,D516,D517	1SS252

RELAY

Mark	Symbol & Description	Part No.
⚠★★	RY501 Relay	ASR1012

TRANSFORMER

Mark	Symbol & Description	Part No.
⚠ ★	T501 Power transformer	ATT1066

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C511,C517 Power capacitors (0.01/AC400V)	ACG1002
	C512,C513 Power capacitors (0.01/AC150V)	ACG1005
	C501,C502 (4700/50)	ACH−252
	C227−C230	CCCSL101K500
	C217,C218	CCCSL150K500
	C213,C214,C233,C234	CCCSL220K500
	C103,C104,C107,C108,C203, C204	CKMYB221K50
	C221,C222	CCCSL470J50
	C223−C226	CCCSL680J50
	C125,C205−C208	CCMSL101J50
	C301,C302	CEANP010M50
	C303	CEAS010M50
	C101,C102,C117,C118	CEAS100M25
	C516,C219,C220,C231,C232	CEAS101M10
	C505,C506,C509,C305	CEAS101M25
	C235,C236	CEAS101M50
	C515	CEAS102M25
	C503,C504	CEAS102M35
	C113,C114	CEAS2R2M50
	C105,C106,C115,C116,C507, C508,C510	CEAS470M25
	C304	CEAS471M6
	C215,C216	CEYA220M16
	C201,C202	CEYA100M25
	C514	CKCYB103K50
	C209,C210	CKCYB182K50
	C109,C110	CKCYB222K50
	C211,C212	CKCYB471K50
	C111,C112	CKCYB822K50
	C119,C120,C124	CKCYF473Z50
	C123	CKCYX104M25

RESISTORS

Mark	Symbol & Description	Part No.
	R259,R260 (0.33×2/5W)	ACN−139
⚠	R205,R206,R516	RD1/4PMFL□□□J
⚠	R307,R237−R240,R301,R302, R253−R256,R247−R250	RD1/4PMF□□□J
	R313,R303−R306,R514,R515, R309,R133,R134,R139−R144, R147−R149,R314,R517,R315	RD1/8PM□□□J
⚠	R505,R501,R503,R245,R246, R251,R252	RFA1/4PS□□□J
	Other resistors	RD1/4PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Pin jack (TAPE, DAT)	AKB1007
	6P Pin jack (CD, TUNER, AUX)	AKB1024
	2P Pin jack (PHONO)	AKB1039

Control main assembly (AWZ1782)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC601	PDG022
★★	IC602	TA7291S

Mark	Symbol & Description	Part No.
★★	Q601,Q605,Q606,Q608	RN1201 (DTC143ES)
★★	Q610	RN2201 (DTA143ES)
★★	Q602	2SC2235
★★	Q607	2SC2458
★	D602,D604,D605－D609,D617, D622	AEL1072
★	D601	AEL1073
★	D635,D636	RD3.0ESB
★	D625	RD4.7ESB2
★	D618－D620,D623,D624,D632, D638－D641	1SS252

SWITCHES

Mark	Symbol & Description	Part No.
★★	S601－S610,S612,S619,S620 Tact switch (POWER, SP-A, SP-B, BASS EQ, AUX, TAPE, TUNER, PHONO, DAT, CD, DAT.D, CD.D, CD.D REC, MUTING, PURE.D.L)	ASG－711 (ASG－703)

CAPACITORS

Mark	Symbol & Description	Part No.
	C606 (47000μF/5.5V)	ACH1070
	C602	CEJAR22M50
	C608	CEJA100M16
	C605	CEJA101M10
	C603	CKDYB102K50
	C601,C604	CKDYF473Z50
	C607,C611,C612	CKDYX473M25

RESISTORS

Mark	Symbol & Description	Part No.
	R601－R603,R609,R610,R613	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X601 Ceramic resonator (4.19MHz)	ASS1022
	Remote control sencor unit	AXX1005

SP assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC401	M5218PF
★★	Q401	2SC2240
★	D401,D403	1SS252

RELAIES

Mark	Symbol & Description	Part No.
★★	RY401,RY403 Relay	ASR1005

COILS

Mark	Symbol & Description	Part No.
	L401,L402 AF choke coil (0.7μF)	ATH1004

CAPACITORS

Mark	Symbol & Description	Part No.
	C401,C402,C405,C406	CEAS100M25
	C403,C404	CEAS470M25
	C411	CKCYF473Z50
	C407－C410	CQMA823K50

RESISTORS

Mark	Symbol & Description	Part No.
⚠	R415,R416	RD1/4PMFL100J
⚠	R413,R414	RD1/4PMF100J
	R401－R404,R409,R410,R424	RD1/4PM□□□J
	R417,R418	RS1LMF□□□J
	R427,R429	RS2PMF391J
	R428,R430	RS2PMF471J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	4P Pin jack (ADAPTOR)	AKB1033
	4P Speaker terminal (SPEAKERS)	AKE－109
	Mini jack (CONTROL)	AKN－207

HEADPHONE assembly

Refer to A-X440.

CONNECTOR assembly

Refer to A-X440.

TONE assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC702	LC4966
★★	IC701	M5218PF
★★	Q705	RN1201 (DTC143ES)
★★	Q706	RN2201 (DTA143ES)
★★	Q701－Q704	2SC1740SLN

CAPACITORS

Mark	Symbol & Description	Part No.
	C709,C710	CEASR33M50

Mark	Symbol & Description	Part No.
	C703,C704,C707,C708	CEASR47M50
	C705,C706	CEASOR1M50
	C711,C712	CEAS100M25
	C713,C714	CEAS470M25
	C717,C718	CKMYB151K50
	C701,C702	CQMA153K50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR702,VR703 Variable resistor (30k × 2)	ACT1031
★	VR704 Variable resistor (10k × 2)	ACT1032
	R731,R732	RD1/4PM331J
	Other resistors	RD1/8PM□□□J

LAMP assembly

RESISTORS

Mark	Symbol & Description	Part No.
	All resistors	RS1PMF□□□J

OTHERS

Mark	Symbol & Description	Part No.
★★	PL601,PL602 Pilot lamp	AEL1050
	Lamp box	AMR1342

VR assembly

Refer to A−X440

LED assembly

Refer to A−X540

5. FOR A–X540/HB, A–X440/HB AND A–X340/HB TYPES

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

CONTRAST OF MISCELLANEOUS PARTS

5.1 A−X540

The A−X540/HB type is the same as the A−X540/HE type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		A−X540/HE type	A−X540/HB type	
⚠	AC power cord	ADG1021	ADG−063	
⚠★★	FU1,FU2 Fuse (T2.5A/250V)	AEK−403	....	
⚠★★	FU1,FU2 Fuse (T2.5A/250V)	....	AEK−512	
⚠	3P AC socket (OUTLET)	AKP−502	AKP−505	
	Operating instructions (English/French/German/Italian)	ARE1080	....	
	Operating instructions (English)	....	ARB1130	

5.2 A−X440

The A−X440/HB type is the same as the A−X440/HE type with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		A−X440/HE type	A−X440/HB type	
⚠	AC power cord	ADG1021	ADG−063	
⚠★★	FU2 Fuse (T2A/250V)	AEK−017	……………	
⚠★★	FU1 Fuse (T2.5A/250V)	AEK−403	……………	
⚠★★	FU2 Fuse (T2A/250V)	……………	AEK−511	
⚠★★	FU1 Fuse (T2.5A/250V)	……………	AEK−512	
⚠	3P AC socket (OUTLET)	AKP−502	AKP−505	
	Operating instruction (English/French/German/Italian)	ARE1081	……………	
	Operating instruction (English)	……………	ARB1129	

5.3 A−X340

The A−X340/HB type is the same as the A−X340/HE type with the exception of the following sections.

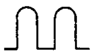
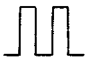
Mark	Symbol & Description	Part No.		Remarks
		A−X340/HE type	A−X340/HB type	
⚠	AC power cord	ADG1021	ADG−063	
⚠★★	FU2 Fuse (T1.25A/250V)	AEK−018	……………	
⚠★★	FU1 Fuse (T2.5A/250V)	AEK−403	……………	
⚠★★	FU2 Fuse (T1.25A/250V)	……………	AEK−509	
⚠★★	FU1 Fuse (T2.5A/250V)	……………	AEK−512	
⚠	3P AC socket	AKP−502	AKP−505	
	Operating instruction (English/French/German/Italian)	ARE1082	……………	
	Operating instruction (English)	……………	ARB1128	

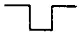
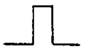
NOTES:

- For the Schematic diagrams and P.C.Boards connection diagrams, refer to the 3. SCHEMATIC DIAGRAM AND P.C.BOARDS CONNECTION DIAGRAM sections.
- For the Line voltage selection, refer to page 6.

6. IC INFORMATION

MICRO COMPUTER (PDG022)

Terminal No.	Terminal name	I/O	Condition	Terminal status	Remarks
1	WP	I	Power supply "ON"		If the input frequency is not 50/60Hz the mode will be switched to backup mode.
2	PA0	O	For A−X540,when control is perfoemed.		Key matrix output
3	PA1				
4	PA2				
5	PA3				
6	PB0	O			
7	PB1	O			Non used
8	PB2				
9	PB3				
10	PE0				
11	SP−A	O	SP selector···SP−A	L	SP−A IND illuminates
12	SP−B	O	SP selector···SP−B	L	SP−B IND illuminates
13	B•EQ	O	BASS EQ "ON"	H	BASS EQ IND illuminates
14	AUX	O	When FUNCTION SEL. set at each position.	L	AUX IND illuminates
15	TAPE	O		L	TAPE IND illuminates
16	TUNER	O		L	TUNER IND illuminates
17	PHONO	O		L	PHONO IND illuminates
18	DAT	O		L	DAT IND illuminates
19	CD	O		L	CD IND illuminates
20	PC2	O	....	......	Non used
21	PC3	O			
22	DAT.D	O	DAT DIRECT "ON"	H	DAT DIRECT IND illuminates
23	CD.D	O	CD DIRECT "ON"	H	CD DIRECT IND illuminates
24	UP	O	VOLUME CONTROL		MODE / Terminal No. : 24, 25 VOL.UP : H, L VOL.DOWN : L, H
25	DOWN	O	UP/DOWN		
26	SOURCE	O	When REC SEL. set at each position.	L	SURCE IND illuminates
27	TUNER	O		L	TUNER IND illuminates
28	DAT→T	O		L	DAT→T IND illuminates

<table>
<tr><th>Terminal No.</th><th>Terminal name</th><th>I/O</th><th>Condition</th><th>Terminal status</th><th>Remarks</th></tr>
<tr><td>29</td><td>TAPE→D</td><td>O</td><td>When REC SEL. set at each position.</td><td>L</td><td>TAPE→D IND. illuminates</td></tr>
<tr><td>30</td><td>CD.D.REC</td><td>O</td><td>CD DIRECT REC "ON"</td><td>L</td><td>CD DIRECT IND illuminates</td></tr>
<tr><td>31</td><td>NC</td><td>…</td><td>…………………</td><td>……</td><td></td></tr>
<tr><td>32</td><td>Vss</td><td></td><td>GND</td><td></td><td></td></tr>
<tr><td>33</td><td>MUT IND</td><td>O</td><td>MUTING "ON"</td><td>H</td><td>Red IND illuminates</td></tr>
<tr><td>34</td><td>VR IND</td><td>O</td><td>Power supply "ON"</td><td>H</td><td>Yellow IND illuminates</td></tr>
<tr><td>35</td><td>PURE DIRECT</td><td>O</td><td>LINE DIRECT</td><td>L</td><td></td></tr>
<tr><td>36</td><td>XTAL</td><td>O</td><td rowspan="2">Connect Crystal resonator (4.19MHz)</td><td rowspan="2"> </td><td rowspan="2">CLOCK oscillating terminal (For A−X540,oscilllation is made if necessary.)</td></tr>
<tr><td>37</td><td>EXTAL</td><td>I</td></tr>
<tr><td>38</td><td>RESET</td><td>I</td><td>When inputting RESET pulse</td><td></td><td></td></tr>
<tr><td>39</td><td>PXo/$\overline{SC}$</td><td>I</td><td>…………………</td><td></td><td>GND.</td></tr>
<tr><td>40</td><td>PX_1/SOB</td><td>I</td><td rowspan="2"><table><tr><th>Teraminal NO. / Model</th><th>A−X540</th><th>A−X440</th><th>A−X340</th></tr><tr><td>40</td><td>H</td><td>L</td><td>L</td></tr><tr><td>41</td><td>L</td><td>H</td><td>L</td></tr></table></td><td rowspan="2"></td><td rowspan="2">By arranging the terminal levels of Pins 40 and 41 as shown in the table,the program can be adjusted to the each models.</td></tr>
<tr><td>41</td><td>PX_2/SOA</td><td>I</td></tr>
<tr><td>42</td><td>PX_3/SI</td><td>I</td><td>…………………</td><td>……</td><td>GND</td></tr>
<tr><td rowspan="2">43</td><td rowspan="2">F•MUTE</td><td rowspan="2">O</td><td>When switching over FUNCTION, CD or DAT DIRECT.</td><td></td><td>Prevents click noise</td></tr>
<tr><td>During −∞ MUTING</td><td>H</td><td></td></tr>
<tr><td>44</td><td>B.EQ CONT.</td><td>O</td><td>BASS EQ "ON"</td><td>H</td><td>Activates BASS EQ circuit</td></tr>
<tr><td>45</td><td>PY_2/WP</td><td>I</td><td colspan="3">The IC601 (PDG022) is a "SUPERSILENT" micro computer which oscillates the CLOCK only when necesarry (only A−X540) . Therefore,this terminal will oscillate the CLOCK when the respective button on the front panel is pressed or when CLOCK oscillation is required. If, for example, a "H" signal is input when pressing the button, the terminal oscillates CLOCK and will determine the function. After the necessary actions, it stops CLOCK again and enters the STOP mode.</td></tr>
<tr><td>46</td><td>REM IN</td><td>I</td><td></td><td> </td><td></td></tr>
<tr><td>47</td><td>ST−BY</td><td>O</td><td>Power supply "ON"</td><td>H</td><td>Relay (RY501) "ON"</td></tr>
<tr><td rowspan="2">48</td><td rowspan="2">PROTECTION</td><td rowspan="2">O</td><td>Power supply "ON"</td><td>H</td><td rowspan="2">Controls relay for SP (RY401 and RY402) and relay for HP (RY403).</td></tr>
<tr><td>(7 seconds after power Supply ON.)</td><td>(L)</td></tr>
<tr><td>49</td><td>SP−B</td><td>O</td><td>SP SELECTOR "SP−B"</td><td>H</td><td>Controls relay for SP−B (RY402).</td></tr>
<tr><td>50</td><td>SP−A</td><td>O</td><td>SP SELECTOR "SP−A"</td><td>H</td><td>Controls relay for SP−A (RY401).</td></tr>
<tr><td>51</td><td>PMO</td><td>O</td><td>…………………</td><td>……</td><td>Non used</td></tr>
<tr><td>52</td><td>MUTING</td><td>O</td><td>During MUTING (−20dB)</td><td>H</td><td>ON/OFF of −20dB MUTING.</td></tr>
<tr><td>53</td><td>D.OFF</td><td>O</td><td>LINE DIRECT "OFF"</td><td>L</td><td></td></tr>
</table>

Terminal No.	Terminal name	I/O	Condition	Terminal status	Remarks
54	DAT.D	O	DAT DIRECT "ON"	L	
55	CD.D	O	CD DIRECT "ON"	L	
56	CK	O	When FUNCTION was changed.	⎍⎍	For controlling FUNCTION.
57	DATA				
58	ST				
59	ST−BY IND	O	During STAND−BY.	L	STAND−BY IND illuminates
60	PJ_0	I	For A−X540, when the control action is performed.	⎍⎍	Key matrix input
61	PJ_1				
62	PJ_2				
63	PJ_3				
64	V_{DD}	…	…………………	⎍⎍	+5V Power supply terminal

7. SPECIFICATIONS

A–X540

Amplifier Section

DIN continuous power output (both channels driven)
1 kHz, 1%, 8Ω .... 100W + 100W
DIN music power (both channels driven)
1 kHz, 1%, 8Ω .... 160W + 160W
Continuous power output (both channel driven)
20 Hz to 20 kHz, T.H.D 0.3%, 8Ω .... 85W + 85W
IEC Continuous power output (both channel driven)
63 Hz to 12.5 kHz, T.H.D 0.7%, 8Ω ... 95W +95W
Total harmonic distortion *
1 kHz, 50W, 8Ω .... 0.005% *
Input (sensitivity/impedance)
PHONO .... 2.5 mV/50 kΩ
TUNER, CD, AUX, TAPE PLAY, DAT PLAY,
ADAPTOR .... 150 mV/50 kΩ
Overload level
PHONO 1 kHz, 0.1% .... 150 mV
Output level
TAPE REC, DAT REC, ADAPTOR OUT ..... 150 mV
Frequency Response
PHONO .... 20 Hz to 20 kHz ±0.5 dB
TUNER, CD, AUX, TAPE PLAY, DAT PLAY, ADAPTOR
.... 10 Hz to 100 kHz $^{+1}_{-3}$ dB
CD (CD DIRECT ON) ..... 10 Hz to 100 kHz $^{+1}_{-3}$ dB
Tone Control
BASS .... ±8 dB (100 Hz)
TREBLE....................... ±8 dB (10 kHz)
BASS EQUALIZER .... (MAX) +10 dB (60 Hz)
MUTING .... –20 dB/–∞
Signal-to-Noise ratio (IHF short circuited, A network)
PHONO .... 72 dB
CD (CD DIRECT ON) .... 102 dB
Signal-to-Noise ratio (DIN, continuous power/50 mW)
PHONO .... 68 dB/60 dB
CD (CD DIRECT ON) .... 82 dB/62 dB
TUNER, CD, AUX, TAPE PLAY, DAT PLAY,
ADAPTOR .... 82 dB/62 dB

Power Supply/Miscellaneous

Power requirements
European model .... AC220 V∼, 50/60 Hz
U.K. model .... AC240 V∼, 50/60 Hz
Other destination models .. ∼AC 110 V/120-127 V/
220 V/240 V (switchable), 50/60 Hz
Power consumption
European model 480W
U.K. model 480W
AC outlets
U.K. model
switched (×3) 100W
Other destination models
switched (×2) 100W
Unswitched (×1) 100W
Dimensions ...... 360 (W) × 349 (D) × 115 (H) mm
14-1/8 (W) × 13-3/4 (D) × 4-1/2 (H) in
Weight .... 8.5 kg (18 lb 13 oz)

Accessories

Remote control unit 1
Batteries AAA/R03 2
Operating instructions 1

- *Specifications and design subject to possible modification without notice due to improvements.*

* *Measured by Audio Spectrum Analyzer.*

A-X440, A-X340

A–X440

Amplifier Section

DIN continuous power output (both channels driven)	
1 kHz, 1%, 8 Ω	65 W + 65 W
DIN music power (both channels driven)	
1 kHz, 1%, 8 Ω	120 W + 120 W
Continuous power output (both channels driven)	
20 Hz to 20 kHz, T.H.D 0.3%, 8 Ω	55 W + 55 W
IEC continuous power output (both channels driven)	
63 Hz to 12.5 kHz, T.H.D 0.7%, 8 Ω	60 W + 60 W
Total harmonic distortion	
1 kHz, 35 W, 8 Ω	0.005% *
Input (sensitivity/impedance)	
PHONO	2.5 mV/50 kΩ
TUNER, CD, AUX, TAPE PLAY, DAT PLAY, ADAPTOR	150 mV/50 kΩ
Overload level	
PHONO 1 kHz, 0.1%	150 mV
Output (level/impedance)	
TAPE REC, DAT REC, ADAPTOR OUT	150 mV
Frequency Response	
PHONO	20 Hz to 20 kHz ±0.5 dB
TUNER, CD, AUX, TAPE PLAY, DAT PLAY, ADAPTOR	10 Hz to 70 kHz $^{+1}_{-3}$ dB
CD (CD DIRECT ON)	10 Hz to 100 kHz $^{+1}_{-3}$ dB
Tone Control	
BASS	±8 dB 100 Hz
TREBLE	±8 dB 10 kHz
BASS EQUALIZER	+10 dB (60 Hz)
MUTING	–20 dB/–∞
Signal-to-Noise ratio (IHF short circuited, A network)	
PHONO	72 dB
CD (CD DIRECT ON)	100 dB
Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO	68 dB/60 dB
TUNER, CD, AUX, TAPE PLAY, DAT PLAY, ADAPTOR	82 dB/62 dB
CD (CD DIRECT ON)	82 dB/62 dB

Power Supply/Miscellaneous

Power requirements	
U.K., Australian models	~ AC 240 V, 50/60 Hz
Other destination models	~ AC 110 V/120 – 127 V/ 220 V/240 V (switchable), 50/60 Hz
Power consumption	
Other destination models	390 W
U.K., Australian models	390 W
AC outlets	
U.K. model	
Switched (× 3)	100 W
Other destination models	
Switched (× 2)	100 W
Unswitched (× 1)	100 W
Dimensions	360 (W) × 346 (D) × 115 (H) mm 14-3/16 (W) × 13-5/8 (D) × 4-9/16 (H) in
Weight	6.6 kg (14 lb 9 oz)

Accessories

Operating instructions	1
Remote control unit	1
Batteries (AAA/R03)	2

- *Specifications and design subject to possible modification without notice due to improvements.*
- **Measured by Audio Spectrum Analyzer.*

A–X340

Amplifier Section

DIN continuous power output (both channels driven)	
1 kHz, 1%, 8 Ω	45 W + 45 W
DIN music power (both channels driven)	
1 kHz, 1%, 8 Ω	85 W + 85 W
Continuous power output (both channels driven)	
20 Hz to 20 kHz, T.H.D 0.5%, 8 Ω	30 W + 30 W
IEC continuous power output (both channels driven)	
63 Hz to 12.5 kHz T.H.D 0.7%, 8 Ω	40 W + 40 W
Total harmonic distortion	
1 kHz, 25 W, 8 Ω	0.005% *
Input (sensitivity/impedance)	
PHONO	2.5 mV/50 kΩ
TUNER, CD, AUX, TAPE PLAY, ADAPTOR	150 mV/50 kΩ
Overload level	
PHONO 1 kHz, 0.1%	150 mV
Output	
TAPE REC, ADAPTOR OUT	150 mV
Frequency Response	
PHONO	20 Hz to 20 kHz ±0.5 dB
TUNER, CD, AUX, TAPE PLAY, ADAPTOR	10 Hz to 100 kHz $^{+1}_{-3}$ dB
CD (CD DIRECT ON)	10 Hz to 100 kHz $^{+1}_{-3}$ dB
Tone Control	
BASS	±8 dB (100 Hz)
TREBLE	±8 dB (10 kHz)
BASS EQUALIZER	+8 dB (60 Hz)
MUTING	–20 dB/–∞
Signal-to-Noise ratio (IHF short circuited, A network)	
PHONO	72 dB
CD (CD DIRECT ON)	100 dB
Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO	68 dB/60 dB
TUNER, CD, AUX, TAPE PLAY, ADAPTOR	82 dB/62 dB
CD (CD DIRECT ON)	82 dB/62 dB

Power Supply/Miscellaneous

Power requirements	
European model	~ AC 220 V, 50/60 Hz
U.K., Australian models	~ AC 240 V, 50/60 Hz
Power consumption	
European model	250 W
U.K., Australian models	250 W
AC outlets	
Switched (× 3)	100 W
Dimensions	360 (W) × 346 (D) × 115 (H) mm
Weight	5.9 kg

Accessories

Operating instructions	1
Remote control unit	1
Batteries (AAA/R03)	2

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- **Measured by Audio Spectrum Analyzer.*